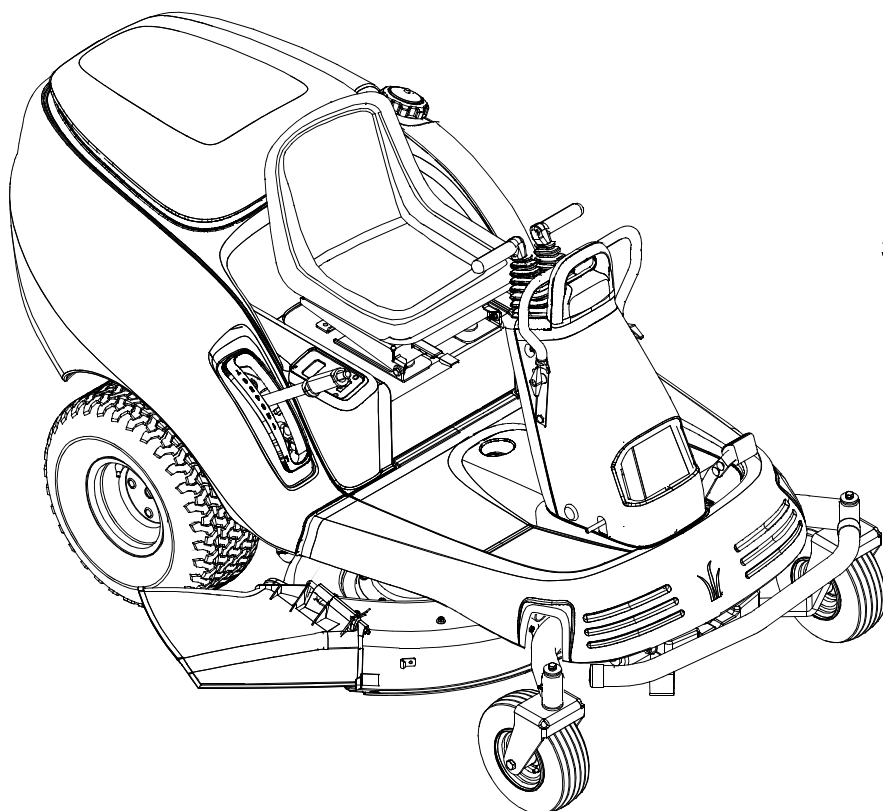




OPERATOR'S MANUAL



Model
53AA1A3G401



IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722

TABLE OF CONTENTS

Content	Page
Maintaining Safety	3
Slope Gauge.....	6
Know Your Z-Series.....	7
Operating Your Z-Series	10
Making Adjustments	12
Maintaining Your Z-Series	14
Maintaining Mower Deck.....	18
Troubleshooting.....	21
Parts List.....	22

FINDING MODEL NUMBER

This Operator's Manual is an important part of your new Z-Series. It will help you assemble, prepare and maintain the unit for best performance. Please read and understand what it says.




Before you start assembling your new equipment, please locate the model plate on the equipment and copy the information from it in the space provided below. The information on the model plate is very important if you need help from our Customer Support Department or an authorized dealer.

- You can locate the model number by opening the engine cover and looking down at the battery stand. It is located on the rear face of the battery stand. A sample model plate is explained below. For future reference, please copy the model number and the serial number of the equipment in the space below.

(Model Number)

(Serial Number)

**MTD PRODUCTS INC**
CLEVELAND, OHIO 44136

Copy the model number here: _____

Copy the serial number here: _____

CALLING CUSTOMER SUPPORT

If you have difficulty assembling this product or have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Support Department.



Call **1- (330) 220-4MTD (4683)** or **1- (800)-800-7310** to reach a Customer Support representative. Please have your unit's model number and serial number ready when you call. See previous section to locate this information. You will be asked to enter the serial number in order to process your call.

For more details about your unit, visit our website at www.yardman.com

SECTION 1: MAINTAINING SAFETY



WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol - **heed its warning**.

WARNING: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

DANGER: This machine was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

GENERAL OPERATION

1. Read, understand, and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Only allow responsible individuals familiar with the instructions to operate the machine. Know controls and how to stop the machine quickly.
3. Do not put hands or feet under mower deck or near rotating parts.
4. Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade. A small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander. To help avoid a thrown objects injury, keep children, bystanders and helpers at least 75 feet from the mower while it is in operation. Always wear safety glasses or safety goggles during operation or while performing an adjustment or repair, to protect eyes from foreign objects. Stop the blade(s) when crossing gravel drives, walks or roads.
5. Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
6. Never carry passengers.
7. Disengage blade(s) before shifting into reverse and backing up. Always look down and behind before and while backing.
8. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the chute guard in place.
9. Slow down before turning. Operate the machine smoothly. Avoid erratic operation and excessive speed.
10. Never leave a running machine unattended. Always turn off blade(s), place transmission in neutral, set park brake, stop engine and remove key before dismounting.
11. Turn off blade(s) when not mowing.
12. Stop engine and wait until blade(s) comes to a complete stop before (a) removing grass catcher or unclogging chute, or (b) making any repairs, adjusting or removing any grass or debris.
13. Mow only in daylight or good artificial light.
14. Do not operate the machine while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the machine into a trailer or truck. This unit should not be driven up or down a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually on a ramp to load or unload properly.
17. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
18. Wear sturdy, rough-soled work shoes and close fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, or sneakers.
19. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
20. Disengage all attachment clutches, thoroughly depress the brake pedal, and shift into neutral before attempting to start engine.
21. Your mower is designed to cut normal residential grass of a height no more than 10". Do not attempt to mow through unusually tall, dry grass (e.g., pasture) or piles of dry leaves. Debris may build up on the mower deck or contact the engine exhaust presenting a potential fire hazard.

SLOPE OPERATION

1. Slopes are a major factor related to loss of control and tip-over accidents which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.
2. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

DO:

1. Mow up and down slopes, not across.
2. Remove obstacles such as rocks, limbs, etc.
3. Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
4. Use slow speed. Choose a low enough gear so that you will not have to stop or shift while on the slope. Always keep machine in gear when going down slopes to take advantage of engine braking action.
5. Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
6. Use extra care with grass catchers or other attachments. These can change the stability of the machine.
7. Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards which could cause serious injury.
8. Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.

DO NOT:

1. Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.
2. Do not mow near drop-offs, ditches or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
3. Do not mow on wet grass. Reduced traction could cause sliding.
4. Do not try to stabilize the machine by putting your foot on the ground.
5. Do not use grass catcher on steep slopes.

CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and in watchful care of an adult other than the operator.
2. Be alert and turn machine off if children enter the area.
3. Before and when backing, look behind and down for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with the safe machine operation.
5. Never allow children under 14 years old to operate the machine. Children 14 years and over should only operate machine under close parental supervision and proper instruction.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure your vision of a child or other hazard.
7. Remove key when machine is unattended to prevent unauthorized operation.

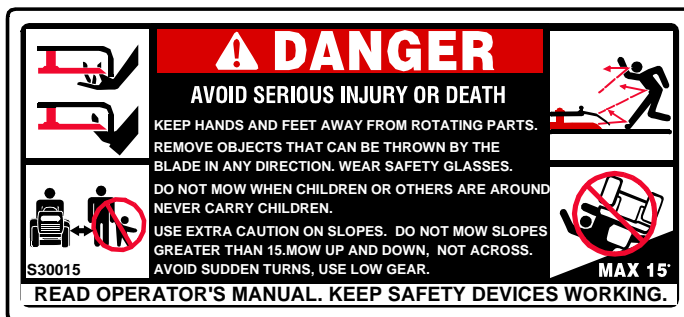
SERVICE

1. Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
2. Use only an approved container.
3. Never remove fuel cap or add fuel with the engine running. Allow engine to cool at least two minutes before refueling.
4. Replace fuel cap securely and wipe off any spilled fuel before starting the engine as it may cause a fire or explosion.
5. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
6. Never refuel the machine indoors because fuel vapors will accumulate in the area.
7. Never store the fuel container or machine inside where there is an open flame or spark, such as a gas hot water heater, space heater or furnace.
8. Never run a machine inside a closed area.
9. To reduce fire hazard, keep the machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool at least 5 minutes before storing.
10. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
11. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., excessive wear, bent, cracked). Replace with blade which meets original equipment specifications.
12. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
13. Never tamper with safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.

14. After striking a foreign object, stop the engine, remove the wire from the spark plug and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
15. Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. For your safety protection, frequently check components and replace with manufacturer's recommended parts when necessary.
16. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves and use extra caution when servicing blade(s).
17. Check brake operation frequently. Adjust and service as required.
18. Muffler, engine and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.
19. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
20. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment and the ecology.
21. Prior to disposal, determine the proper method to dispose of waste from your local Environmental Protection Agency. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.
22. Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them. Properly dispose of the containers immediately following the draining of fluids.
23. DO NOT pour oil or other fluids into the ground, down a drain or into a stream, pond, lake or other body of water. Observe Environmental Protection Agency regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, tires and other harmful waste.

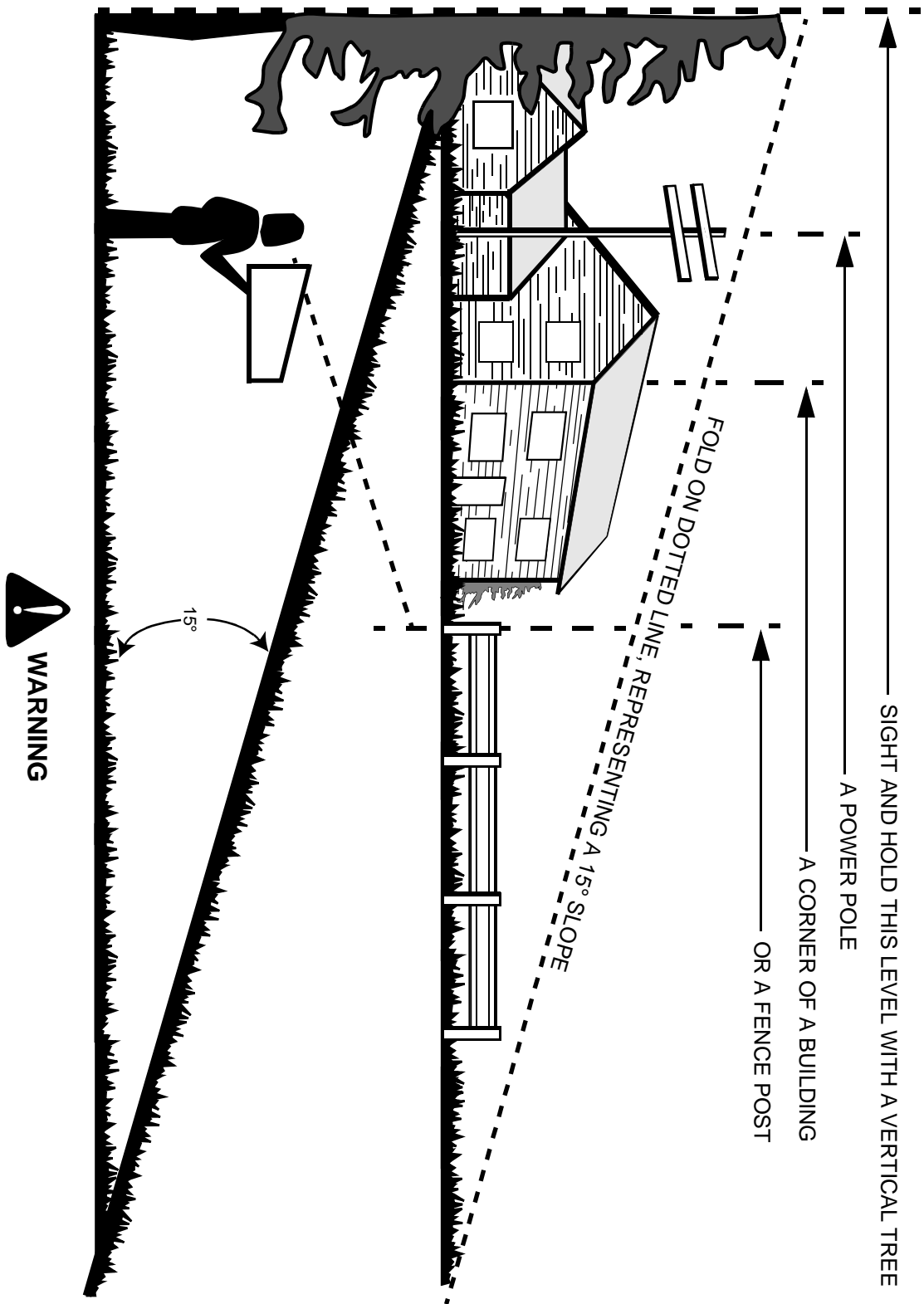


WARNING - YOUR RESPONSIBILITY: Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.



SECTION 2: SLOPE GAUGE

Use this page as a guide to determine slopes where you may not operate safely. **Do not operate** your lawn mower on such slopes.



Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

SECTION 3: KNOW YOUR Z-SERIES

NOTE: Reference to right or left hand side of the mower is observed from the operating position.

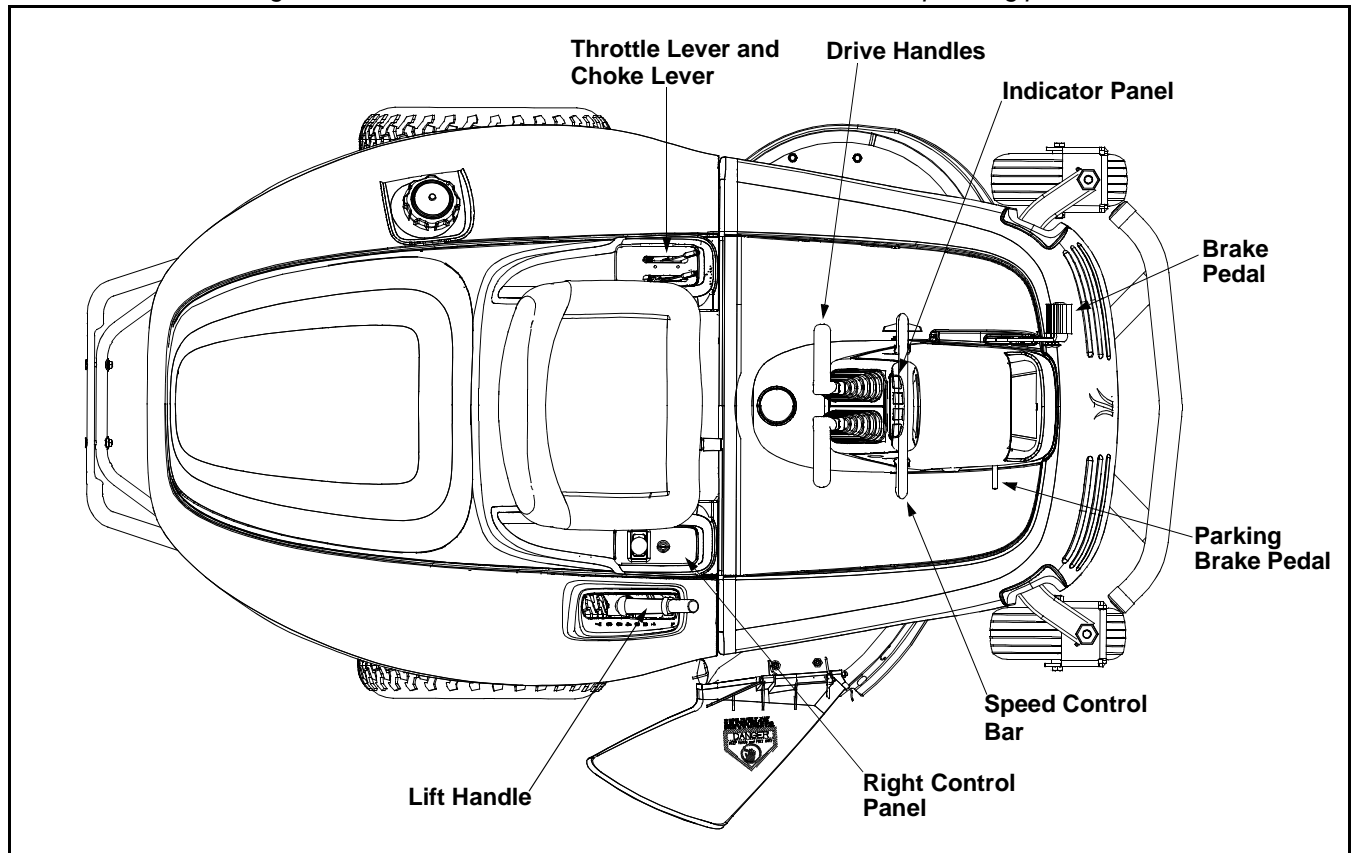


Figure 1



WARNING: Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.

Right Control Panel

Ignition/Light Switch

The ignition/light switch is located on the right control panel and it is used to start the engine. Insert key into the ignition switch and turn clockwise to the START position. Release key to the ON position once engine has fired. The ignition switch is also used to operate the headlights when the switch is in the ON/LIGHT position. See Figure 1 and Figure 2.

Hour Meter

The hour meter is located on the right control panel and the meter's display stays on continuously. The hour value is the number of hours of engine's operation. Use the hour value to determine when maintenance is required. See Figure 1 and Figure 2.

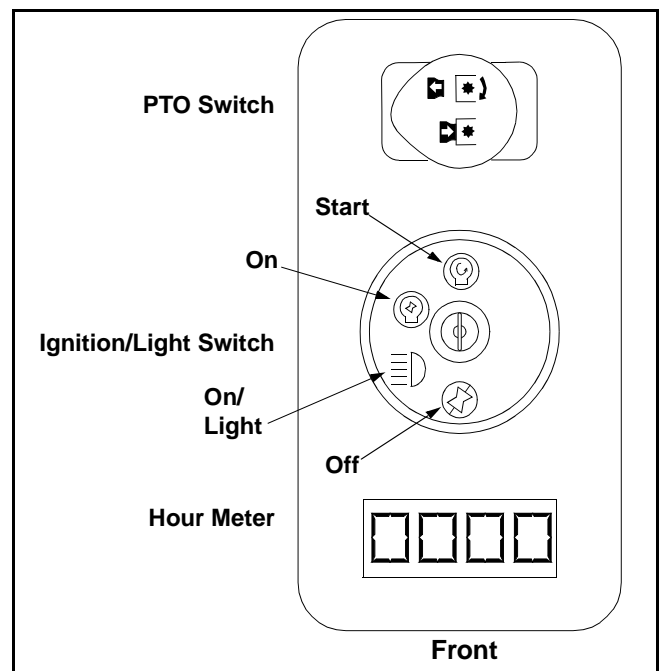


Figure 2

Electric PTO (Power Take-Off) Switch

The PTO switch is located on the right control panel and it is used to control the engagement of the cutting blades. When the knob is up, the cutting blades are engaged. When the knob is down, the cutting blades are disengaged. See Figure 1 and Figure 2.

NOTE: The PTO knob must be in the disengaged (OFF) position when starting the engine, when shifting into reverse, and when the operator leaves the seat.

Throttle Lever and Choke Lever

The choke lever is located on the left control panel. Activating the choke control closes the choke plate on the carburetor and aids in starting the engine during initial or cold engine start-up. During normal operation the choke lever should be in the OFF position. Push the lever forward to turn choke on and pull choke lever back to turn choke off. See Figure 1 and Figure 3.

The throttle lever is also located on the left control panel and it is used to regulate the engine speed. To get maximum efficiency from cutting, the throttle should be in the FAST position when operating the mower. Push the throttle lever forward for faster engine speed and pull lever back for slower engine speed. See Figure 3.

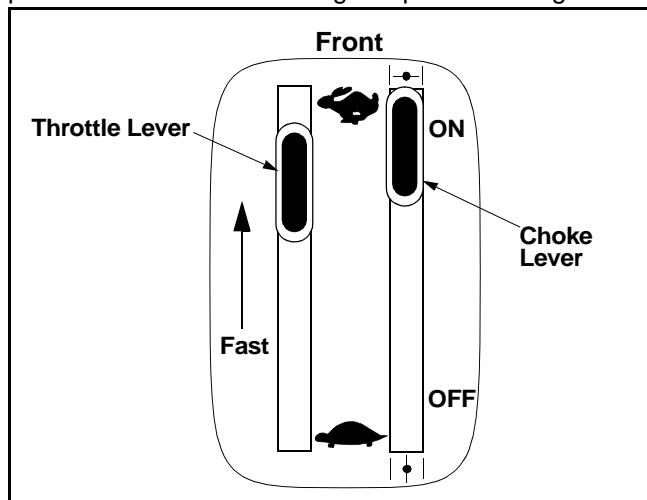


Figure 3

Seat Adjustment Lever

The seat adjustment lever is located beneath the seat and it is used to move the seat forward and backward. See Figure 4.

- Pull up on the seat adjustment lever and push the seat forward or back to the desired position.
- Release the seat adjustment lever so that it locks the seat in place.



WARNING: Do not try to adjust the seat position while operating the Z-Series.

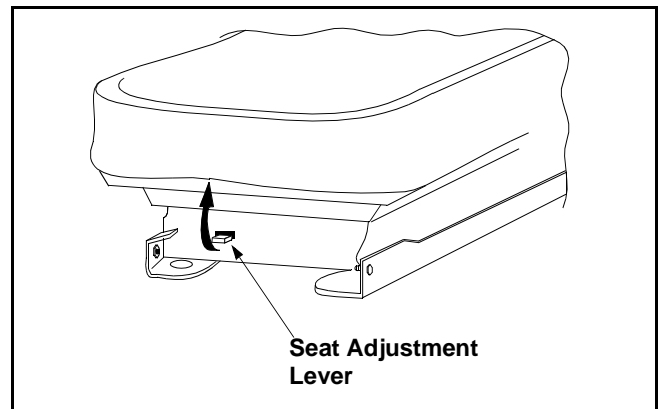


Figure 4

Lift Handle

The lift handle is located on the right fender and it raises and lowers the cutting height of the mower deck. The height positions are one through seven and the L is the lock position. The lock position is used when removing the mower deck. See Figure 1 and Figure 5.

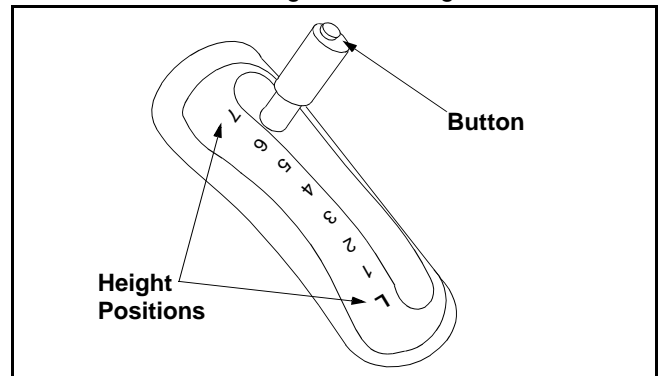


Figure 5

Indicator Panel

The indicator panel is located at the top of the control tower. See Figure 1 and Figure 6. When the corresponding light is illuminated it indicates:

- **Low Engine Oil:** Stop the tractor immediately and check the engine oil level. Continuing to operate with low engine oil can severely damage the engine.
- **Battery:** The BATTERY indicator light will illuminate any time the ignition key is in the ON position and the engine is not running. If it illuminates while the engine is running, then the battery is in need of a charge. Refer to the MAINTENANCE section of this manual for the proper battery charging procedure.
- **Fuel:** The fuel tank is near empty and it needs to be filled with clean and fresh gasoline.

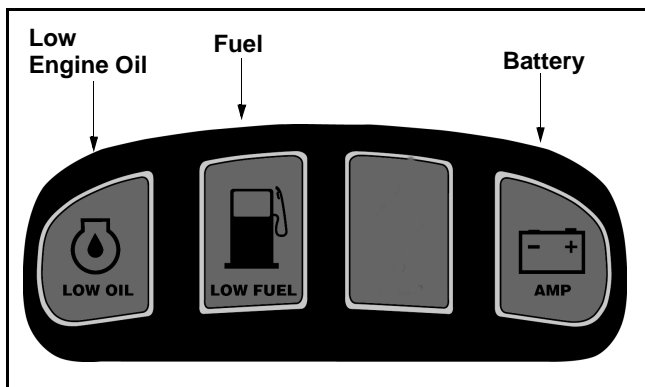


Figure 6

Brake Pedal and Parking Brake Pedal

The brake pedal is located on the lower left side of the control tower and it is used to engage the brake in order to slow down or stop the unit. It also is used to engage the parking brake. See Figure 1 and Figure 7.

Parking Brake Pedal

The parking brake pedal is located on the lower right side of the control tower. Engage the parking brake when the unit is not in use. See Figure 7.

- Push down on the brake pedal and hold.
- Push down on the parking brake pedal and hold.
- Release brake pedal to lock parking brake engagement.
- To release parking brake pedal, press down on brake pedal and release.

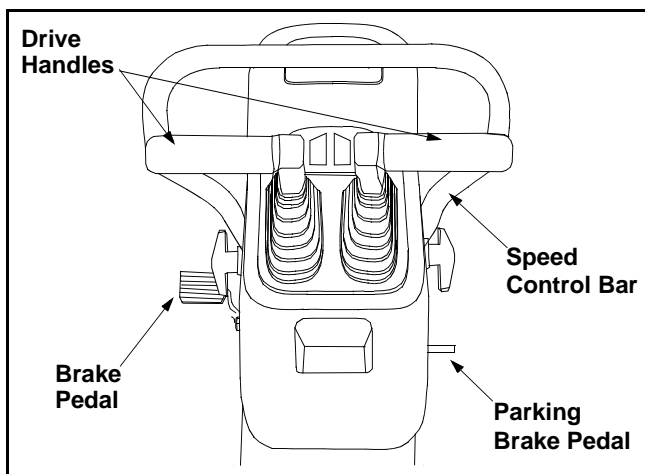


Figure 7

Drive Handles

The drive handles (left and right) are located at the top of the control tower. The drive handles are used to move, steer, and stop the Z-Series. The drive handles will return toward the neutral position when released; however, the driver should place the drive handles in

the neutral position so the unit will not move. If the drive handles are not placed in the neutral position, the Z-Series may creep. See Figure 1 and Figure 7.

When the engine is running, the unit will move in accordance with the drive handles (push, pull, or both) as they are moved from the neutral position. When the drive handles are released, they immediately return towards the neutral position as the unit slows to a stop position (while the engine continues to run).

The rear wheels move and steer the unit. The left drive handle controls the left rear wheel and the right drive handle controls the right rear wheel. When a drive handle is moved forward, the respective wheel turns forward. When a drive handle is moved backward, the respective wheel turns in reverse.

Each drive handle has a range in the forward position (push) and the reverse position (pull). The drive handles can be moved together in the same direction or independent of each other in any combination (i.e. left push, right pull). refer also to the Quick Reference OPERATION section. See Figure 8.

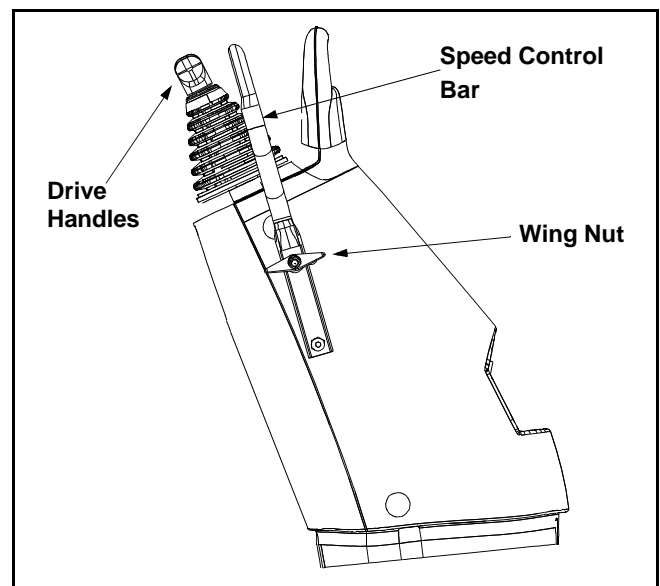


Figure 8

Speed Control Bar

The speed control bar is connected to the console with two wing nuts and it is used as a grab bar for entry or exit from the tractor and allows for pre-set maximum travel speed. See Figure 1 and Figure 8.

- Loosen the wing nuts located on either side of the plastic console.
- Rotate speed control bar to desire location.
- Tighten wing nut to secure speed control bar.

NOTE: Limit loosening the wing nuts to 1 1/2 turns. This will insure proper assembly of the screw not visible on the other side of the plastic console.

The speed control bar also aids the drive handles in making “perfect U-turns”. To move forward grasp both drive handles and the speed control bar at the same time, then release the left drive handle to turn left and

then grasp it again to continue straight ahead or release the right drive handle to turn right. Refer also to the Quick Reference Chart located in the OPERATION Section.

SECTION 4: OPERATING YOUR Z-SERIES



WARNING: Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

Gas and Oil Fill-Up

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your mower. Read instructions carefully.

IMPORTANT: Your unit is shipped with oil; however, you **MUST** check the oil level before operating. Be careful not to overfill. Overfilling with oil may cause the engine to smoke. This will result in poor engine performance and could cause permanent engine damage.



WARNING: Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes, and other sources of ignition.

Operating Guidelines

- Study this manual carefully for it has been provided to help you safely operate and maintain this unit and familiarize yourself with all instruments and controls.
- **NO RIDERS!** Keep children and pets away from unit during operation.
- Always look down and behind before and while backing up.
- Keep safety devices (guards, shields, and switches) in place and working.
- Use the SLOPE GAUGE to determine safe operating areas. Go up and down slopes, not across.
- Before leaving operator's position, disengage the PTO (down), engage the parking brake and turn ignition switch to OFF.

IMPORTANT: We do not recommend the use of a pressure washer or garden hose to clean your unit. They may cause damage to electric components, spindles, pulleys, bearings, or the engine.

Stopping The Z-Series

- Bring the Z-Series to a stop by pulling the drive handles to the neutral position.

- Disengage the PTO (down).
- Push down on the brake pedal and hold.
- Push down on the parking brake to lock engagement.
- Turn the ignition to the OFF position.
- Remove the key.



WARNING: Always remove the key from the ignition switch to avoid accidental starting.

Safety Interlock Switches

- The engine will not crank or start without the brake pedal fully engaged and the PTO disengaged (down).
- If the operator leaves the unit with the PTO in the Run position or the parking brake disengaged, it automatically shuts the engine off.

Starting Engine

- Insert the key into the ignition switch.
- Move the choke lever to the full choke position (all the way toward the front of the unit).
- Move the throttle lever to the FAST (Rabbit) position (all the way toward the front of the unit).

NOTE: *Less choking may be required due to engine temperature variance. If the engine is warm, choking may not be necessary.*

- Push the PTO (power take-off) switch to OFF.
- Fully depress the brake pedal.
- Turn the ignition switch to the START position and release it as soon as the engine starts. It will return to the ON position.
- Move the choke lever to the OFF position (rearward).

NOTE: *If starting problems are encountered, refer to the TROUBLESHOOTING section.*

Driving the Z-Series

- Set the throttle to the fastest position (rabbit).
- Release the parking brake by depressing the parking brake pedal.
- Gradually move the drive handles in the desired direction, referring to the Quick Reference Chart.

NOTE: The Z-Series speed is based on the position of the drive handles. Push the handles forward to increase speed and back toward neutral for slower speeds.

Driving On Slopes

Before operating the Z-Series on any slope:

- Use the SLOPE GAUGE to determine if the slope is safe for operation.



WARNING: Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). The tractor could overturn and cause serious injury.

- If safe for operation, walk the slope and look for hazards such as rocks, mounds, ruts, stumps, or other irregularities.
- After removing debris and identifying irregularities of the slope, back the Z-Series up the steepest slope you intend to work. If it cannot negotiate the slope in reverse, the slope is too steep.

Use the following guidelines when operating on a slope:

- Drive UP and DOWN slopes. Never drive across slopes.
- Avoid turns when driving on a slope. If you must turn, turn down the slope. Turning up a slope greatly increases the chance of roll over.
- Avoid stopping when driving on a slope. If you must stop, start slowly and smoothly to reduce the chance of flipping the Z-Series over backwards.

Mowing

- For best results it is recommended that the first two laps be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.
- Do not cut grass too short. Short grass invites weed growth and yellows quickly in dry weather.
- Mowing should always be done with the engine at full throttle.
- Do not mow at high ground speed, especially if mulching or bagging.
- Under heavier conditions, it may be necessary to go back over the cut area a second time to get a clean cut.
- Do not attempt to mow heavy brush, weeds, or extremely tall grass. Your Z-Series is designed to mow lawns, not clear brush.
- Keep the blades sharp and replace the blades when worn. Refer to the MAINTENANCE section of the manual for proper blade sharpening instructions.

Pushing Your Unit

To push your unit you will have to first relieve the hydrostatic pumps.



WARNING: The hydraulic relief levers are near engine parts that can be hot. To avoid injury wait until engine parts have cooled before disengaging.

- Position the Z-Series on a flat and level surface and engage the parking brake.
- Remove the hydraulic relief levers from the lock position. There is a lever for the right and left hydraulic pump.
- Slide the levers into the slots to relieve the hydraulic pumps. See Figure 9.
- Disengage parking brake and push unit.

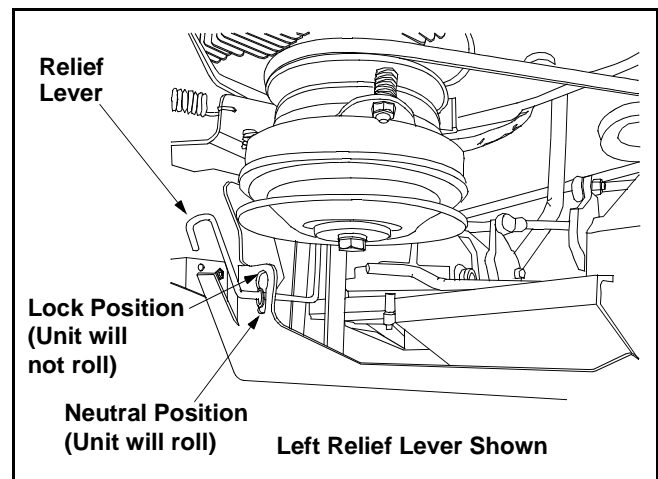


Figure 9

Quick Reference Chart

The Z-Series can turn with a zero radius. The Z-Series uses the rear tires to turn. When turning with a zero radius, the rear tires are used as the pivot point. A conventional tractor can make a circle but it needs a turning radius, usually based on the distance between the front and rear wheels. With a shorter overall length and a zero turn radius, the Z-Series has an excellent maneuverability.

The Z-Series does not have a steering wheel, instead drive handles are used to steer and to move the unit. When the drive handles are in the full positions (pull or push), the wheels turn at full speed based on the throttle setting. Positions between neutral and full are proportional across the range based on the throttle setting. The quick reference chart indicates the direction the Z-Series will move based on the position of the drive handles. See Figure 10.

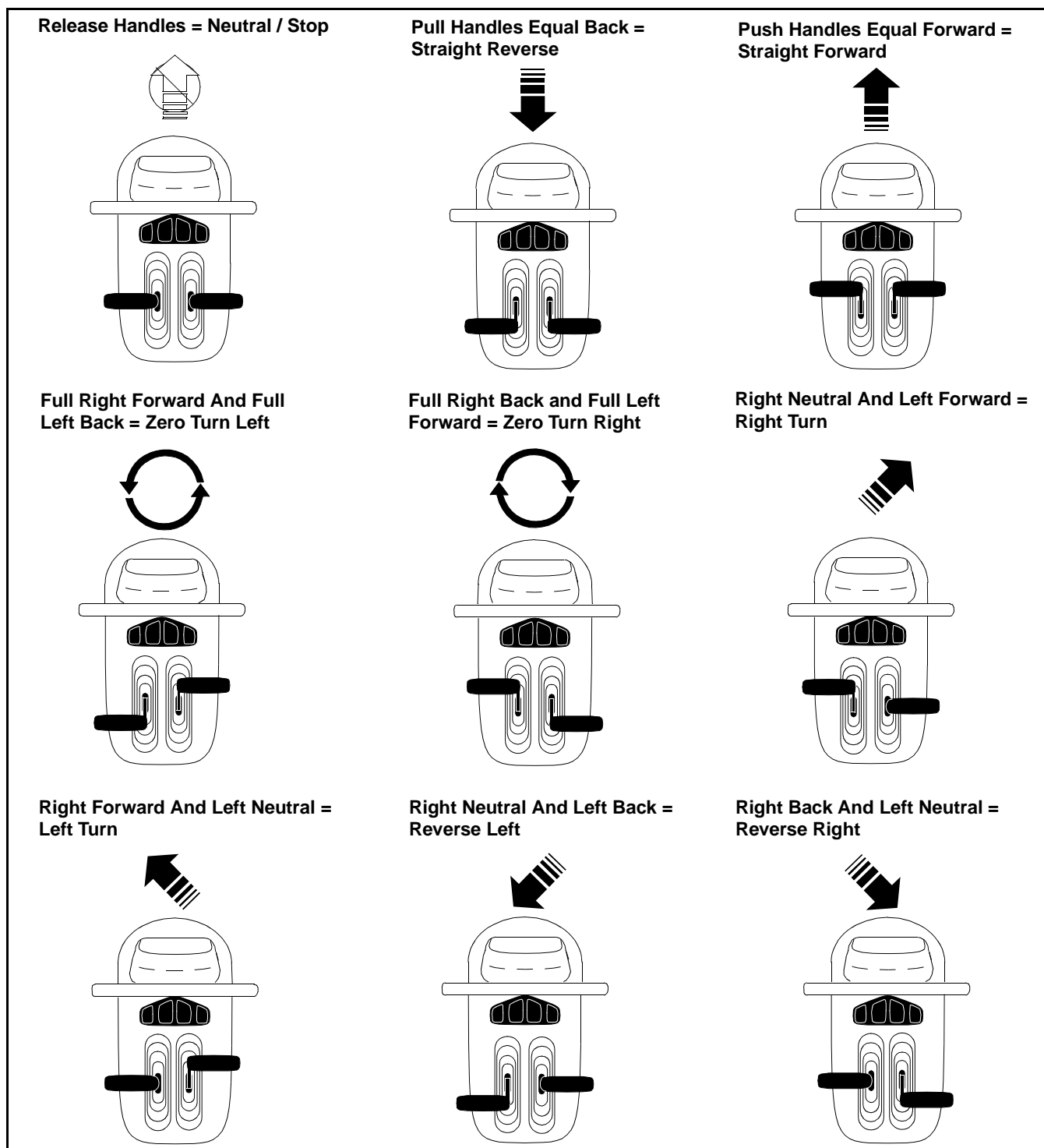


Figure 10

SECTION 5: MAKING ADJUSTMENTS

Adjusting the Mower Deck Height

- To push or pull the lift lever, depress and hold the button. Refer to Figure 5.
- Move the handle up/down to the desired location.
- Release button at the desired position.

Adjusting the Seat Position

- Lift the seat adjustment lever. Refer to Figure 4.
- Slide the seat either forward or back to the desired location.
- Lock the seat in position by releasing the seat adjustment lever.

Checking the Brake Adjustment

- Position the Z-Series on a level surface and move the throttle lever to the slowest position (turtle).
- Stop the engine, remove the key from the ignition, and engage the parking brake.
- Release both hydraulic relief levers.
- From the rear push on the frame and try to move the Z-Series.

If you can move it, then the brake force must be increased. Go to ADJUSTING BRAKE FORCE.

If you can not move it, then go on to next step.

- Release the parking brake and try again to move the Z-Series by pushing.

If you can not move it, then the brake force must be decreased. Go to ADJUSTING BRAKE FORCE.

If you can move it, then you are done (no adjustment necessary).

Adjusting Brake Force

- Place the Z-Series on level surface without the brake engaged and place blocks behind the wheels.
- Turn the engine OFF and remove the key from the ignition.
- From underneath the Z-Series directly behind the caster wheel pivot bar, locate the brake rods. There is one on the right and one on the left. See Figure 11.
- The factory sets a 1/16" gap minimum between the brake arm and frame of the Z-Series. More adjustment may be necessary

If increased force is needed, then rotate brake rods clockwise.

If decreased force is needed, then rotate brake rods counterclockwise.

- Repeat process on the other brake rod.
- Check the operation of the brakes before operating. If the adjustment does not help, see your dealer.

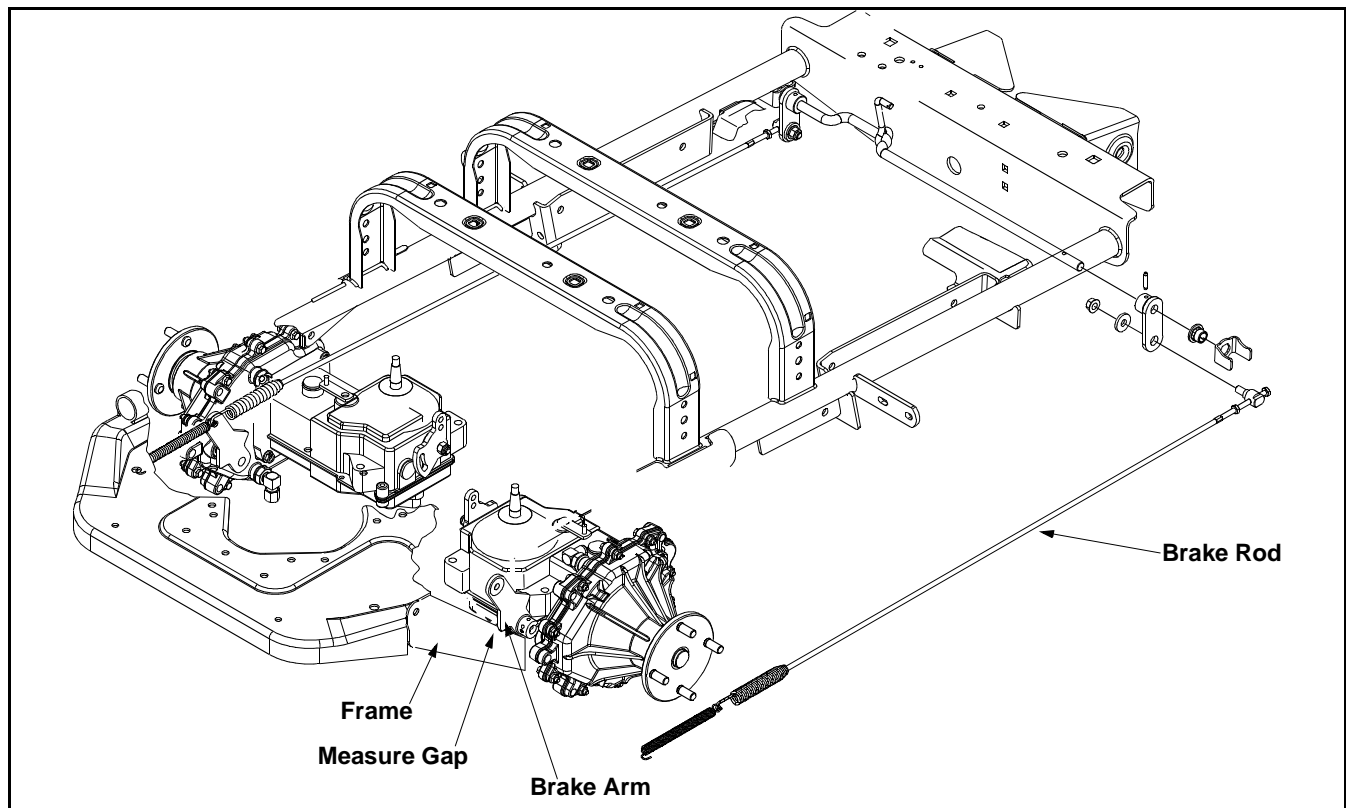


Figure 11

Steering Adjustment

- Remove the ignition key from ignition switch and detach the bottom of the rubber boot cover on the drive handles.
- Slide the boot cover all the way up (toward the drive handles) to access the drive handle bolts.
- Remove both bolts securing the drive handles and remove the drive handles and the rubber boot.

- Remove the four bolts securing the retaining plate to the control tower cover.
- Pull up on the cover and slide up and over the control tower.
- Remove both safety switches from their respective holders by squeezing together on the retaining clips while gently pushing upward until the switches clear the brackets.

- Remove bolts that secure linkage to upper control handles and lower control arms. The shock absorbers should remain connected to linkage. See Figure 12.

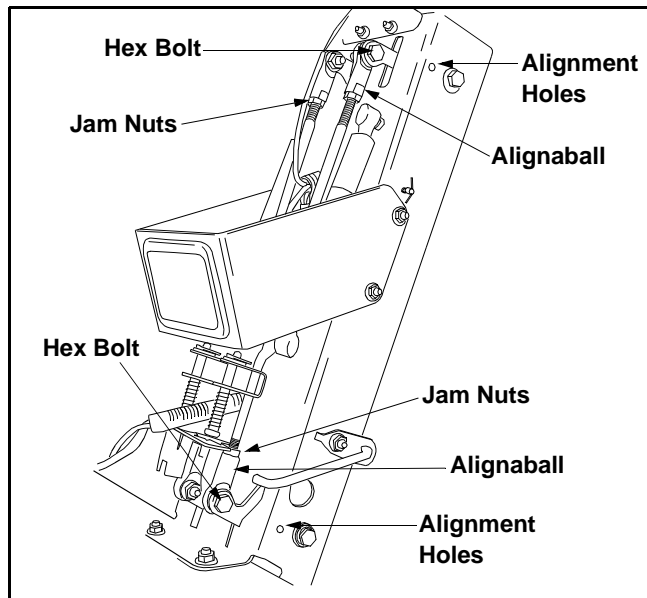


Figure 12

- Insert quarter inch by seven inch pin or equivalent through the top and bottom alignment holes of the control arms to secure arms at positive neutral.
- With the shock absorber still bolted to linkage, loosen the jam nuts at both ends of the linkage so the alignaball adjustment can be made.
- Adjust the alignaball until retaining bolts slips through alignaball and hole in arm with little effort.
- Re-install bolts, washers, and nuts in all four ends of linkage. Tighten jam nuts against alignaball ends to keep ends from turning.
- Lift rear wheels off ground using floor jack or other suitable lifting device.

- With quarter inch by seven inch pins still installed in the top and bottom linkage arms, loosen the jam nuts at both the front and rear ends of linkage that runs from bottom linkage arms to hydrostatic pumps. See Figure 13.

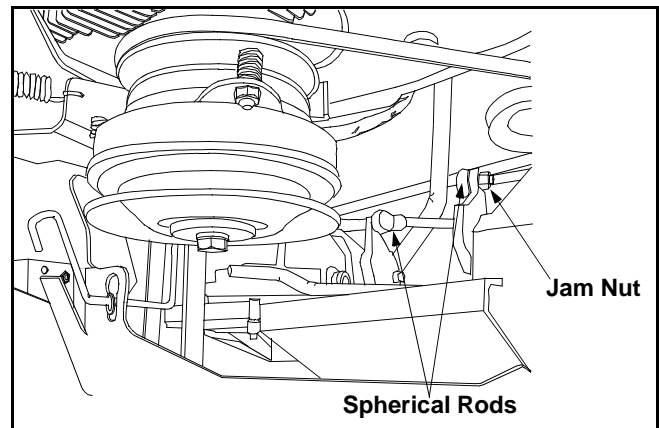


Figure 13

- Set parking brake and start the engine (set throttle at full speed). **Make sure that the PTO is OFF.**
- Rotate rods (lengthen or shorten) to bring each hydrostat to neutral.

NOTE: The control linkage going to the hydrostatic pump has left-handed threads at the pump and right-handed threads at the tower.

- Tighten the jam nuts earlier loosened and reassembled the safety switches.
- Remove quarter inch by seven inch pins from top and bottom holes.
- Reassemble body panels and drive handle assembly.
- Make sure that all hardware is tightened.

SECTION 6: MAINTAINING YOUR Z-SERIES



WARNING: Before performing any maintenance or repairs, stop the engine, disconnect the spark plug wire, and ground against the engine to prevent unintended starting.

Lubrication

Engine

Lubricate the engine with motor oil as instructed in the separate engine manual packed with your unit.

Control Tower

There are two grease fittings that are located on the right side of tower. Lubricate both with a grease gun at least once a season. The control tower cover must be removed to lubricate. See Figure 14.

Caster Assembly / Wheels

There are three grease fittings, one on each wheel spindle and one in middle of caster assembly. The caster wheels have one grease fitting on each wheel. Lubricate these with a grease gun at least once a season. See Figure 14.

Deck Lift Pivot / Lift Handle

The deck lift pivot assembly has grease fittings on each end and the lift handle has a grease fitting on its lower side. Lubricate with a grease gun at least once a season. See Figure 14.

Mower Deck

The mower deck may have grease fittings located on the idler assembly or the spindle assemblies.

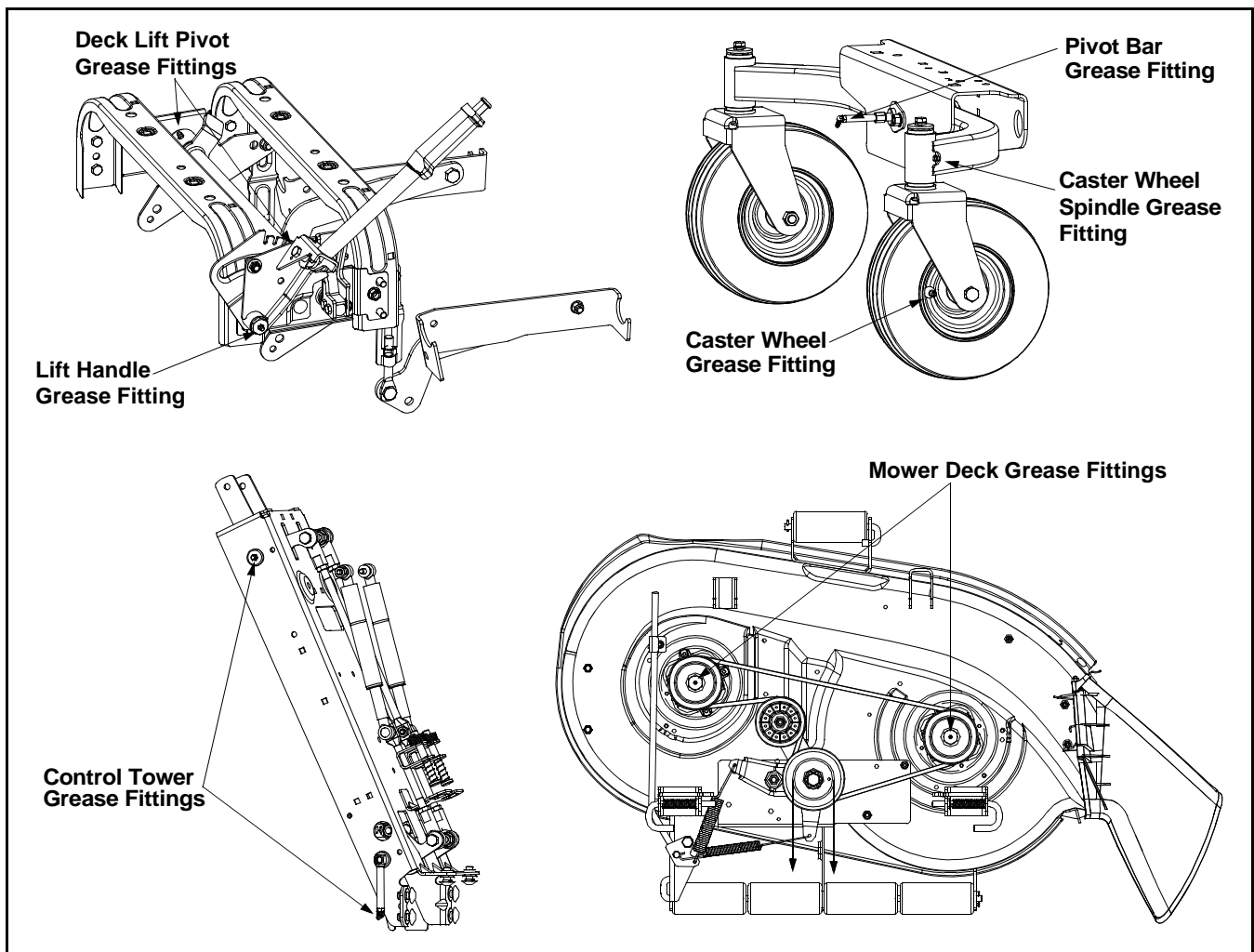


Figure 14

Engine

Refer to the separate engine manual for engine maintenance instructions.

Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. To service the air cleaner, refer to the separate engine manual.

The spark plug(s) should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season. Check engine manual for correct plug type and gap specifications.

Fuel Tank

The fuel tank cap is located on the left rear fender panel. Remove the fuel cap by unscrewing and fill the gas tank from this point.

Checking Hydraulic Oil

Check the oil level of hydraulic units only when the engine is OFF.

During initial break-in (first five hours of operation), check oil before each use and then check after every 50 hours of operation.

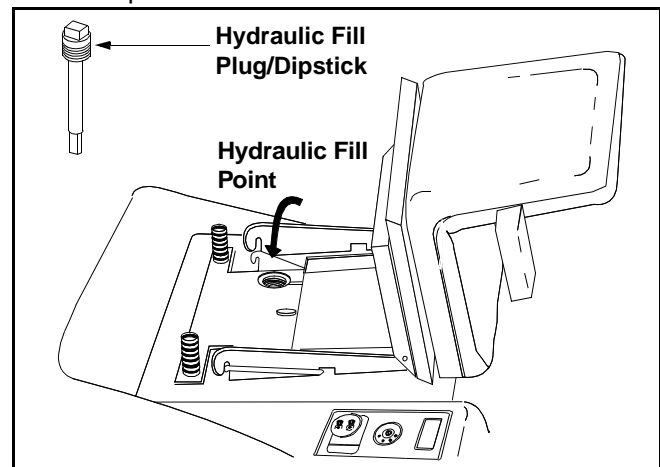


Figure 15

- Flip seat up and clean the area around the hydraulic oil dipstick to prevent debris from entering the crankcase. See Figure 15.
- Remove the hydraulic fill plug/dipstick and read the level:

If hydraulic oil level is inside operating range, then do nothing.

If hydraulic oil level is below operating range, then add hydraulic oil before operating. Also check for leaks.

If hydraulic oil level is above operating range, then drain excess oil before operating.

- Reinstall the dipstick completely into the fill tube.

Adding Hydraulic Oil



WARNING: Never overfill the hydraulic units. Damage can result if the oil level is not within the operating range. When adding hydraulic oil, do so in small quantities and recheck the oil level before adding more.

- Place the Z-Series on a level surface and engage the parking brake.
- Stop the engine and remove the key from the ignition switch.
- Clean the area around the hydraulic oil dipstick to prevent debris from entering the crankcase.
- Remove the hydraulic fill plug and insert a clean funnel into the hydraulic fill point. See Figure 15.
- Pour proper amount of hydraulic oil level, insert the dipstick, and check the hydraulic oil level.

Draining Hydraulic Oil

- Place the Z-Series on a level surface and engage the parking brake.
- Stop the engine and remove the key from the ignition switch.
- Remove the mower deck. See Removing the Mower Deck section.
- Flip seat up and clean the area around the hydraulic oil dipstick to prevent debris from entering the crankcase.
- Remove hydraulic fill plug/dipstick.
- Place a suitable container (at least 2 gallon) under the hydraulic oil filter.
- Remove the hydraulic filter to allow hydraulic oil to drain. See Figure 16.
- Place a small pan under the skid plate and drain oil from both left and right axles.
- Replace both axle drain plugs and install new hydraulic oil filter.
- Add proper amount of hydraulic oil to reservoir.
- Run and check oil level.

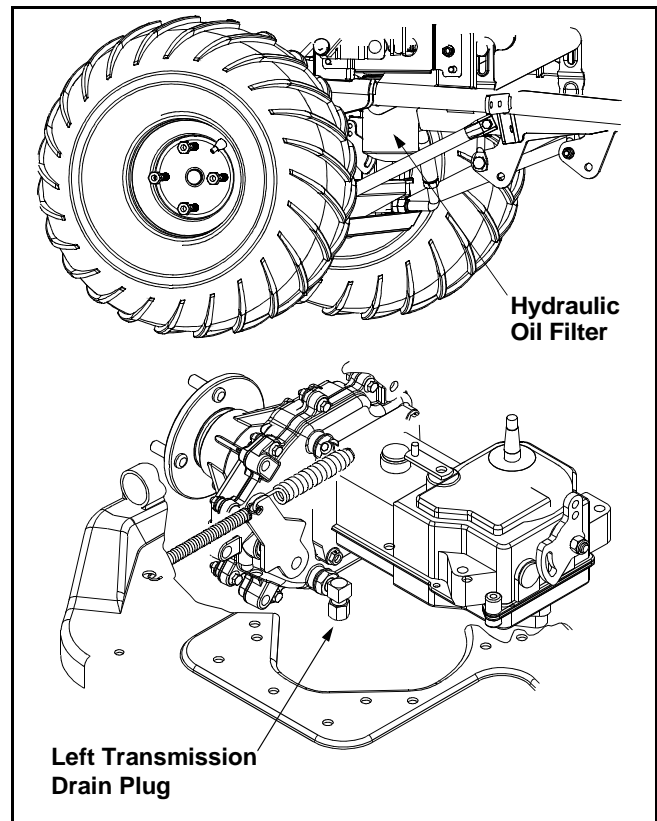


Figure 16

Replacing The Head Lamp Bulb

- Detach the bottom of the rubber boot cover on the drive handles.
- Slide the boot cover all the way up (toward the drive handles) to access the drive handle bolts.
- Remove drive handle bolts, drive handles, and rubber boot.
- Remove the four bolts securing the retaining plate to the control tower cover.
- Pull up on the control tower cover and slide up and over the control tower.
- Locate the rear of the light fixture where the wire attaches. See Figure 17.
- Remove the wire from the light bulb assembly and squeeze the tab on the connector that attaches the wire to the light bulb assembly.
- Pull the wire from the light bulb assembly and turn the light bulb assembly counterclockwise to release it from the light fixture.
- Carefully pull the light bulb out of the light fixture and insert the replacement light bulb into the light fixture.
- Turn the light bulb assembly clockwise until it locks in place and carefully insert the connector into the light bulb assembly.
- Replace the control tower cover and drive handle assemblies.

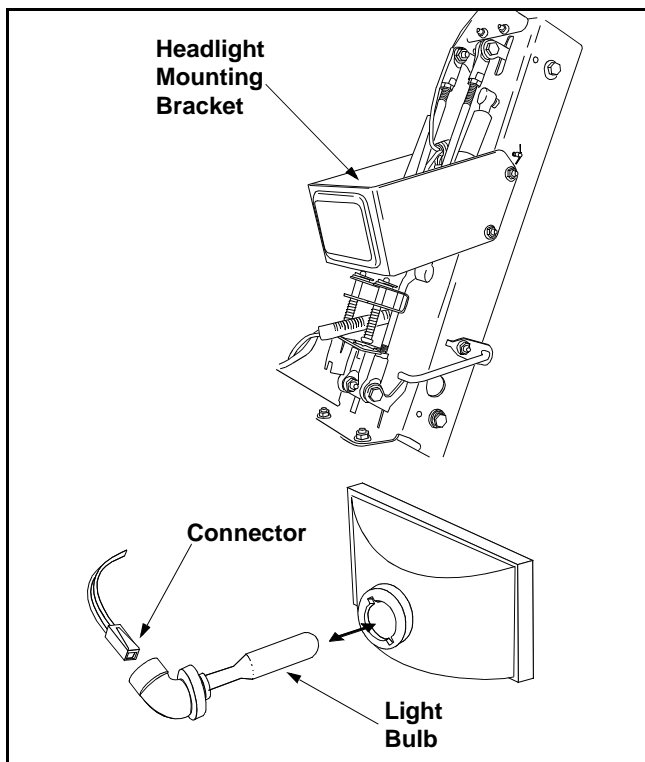


Figure 17

Changing The Fuse

- The fuse can be located on a wiring harness in a protective cover between the engine and the battery.
- Remove the old fuse and replace with same rated fuse.

Battery

The battery is sealed and is maintenance free. Acid levels can not be checked.

- Always keep the battery, cables, and terminals clean and free of corrosive build-up.
- After cleaning the battery and terminals, apply a light coat of petroleum jelly or grease to the terminals and over the positive terminal boot.
- Always keep the boot positioned over the positive terminal to prevent shorting.

IMPORTANT: If removing the battery for any reason, disconnect the NEGATIVE (Black) wire from it's terminal first, follow by the POSITIVE (Red) wire. When reinstalling the battery, always connect the POSITIVE (Red) wire to it's terminal first and the NEGATIVE (Black) wire second. Be certain that the wires are connected to the correct terminals.

Charging

If the unit has not been in use for an extended period of time, charge the battery with an automotive-type 12-volt charger for a minimum of one hour at six amps. Never store battery without a full charge.

Tires

The two front wheels are caster wheels that swivel to accommodate the direction of the Z-Series. The two rear wheels are used to propel the Z-Series in the direction of input from the drive handles. Inflation pressure of the tires is important for stability while the Z-Series is in operation. See tire side wall for proper inflation pressure.



WARNING: Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.

Removing The Drive Belt

Visually inspect the drive belt for wear and cracking. If the drive belt shows signs of glazing, fraying, cracking or excess wear it needs to be replaced. Follow these steps to replace the drive belt.

- Set parking brake and remove the mower deck belt from the engine pulley. See Removing the Mower in MOWER DECK section.
- Locate the drive belt and roll drive belt down off the left drive pulley.
- Then roll the drive belt down off the right drive pulley and remove the drive belt from the engine pulley.
- Carefully pull the belt up and over the right hydrostatic cooling fan and then lift up and over the left hydrostatic cooling fan.
- Pull the drive belt out of the unit.

Installing Drive Belt

- Set the parking brake and insert drive belt up and over the left and right hydrostatic cooling fans. Do not place the belt into the drive pulley grooves at this time.
- Place the drive belt into the top groove of the engine pulley and route the belt to the inside of the idler pulley.
- Roll the belt up into the groove of the left drive pulley and roll the belt up into the groove of the right drive pulley.
- Make sure that the belt is seated in all pulley grooves and release the parking brake.
- The drive belt should be tightened by the idler pulley if the belt was installed correctly.
- Check the belt for correct routing and reinstall the mower deck.

SECTION 7: MAINTAINING MOWER DECK

Checking The Level Of The Mower Deck

Side to Side

- Position the Z-Series on a hard and level surface and place the PTO switch in the OFF position.
- Engage the parking brake and turn the ignition switch to the OFF position and remove key.
- Remove spark plug wire(s) from the spark plug(s).
- Raise the lift handle to the highest setting (7).
- Position the mower blades so they run perpendicular to the Z-Series. See Figure 18.

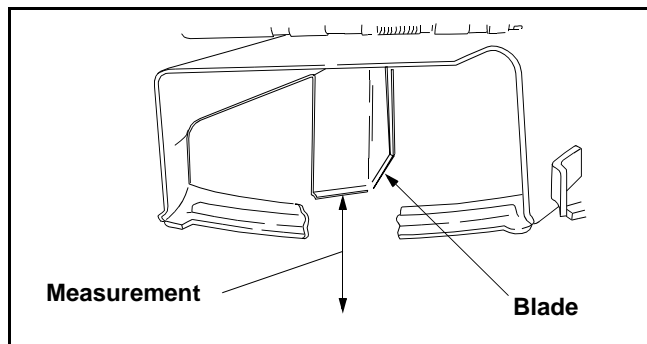


Figure 18

- Measure the distance from the outside of the left blade tip to the ground and the distance from the outside of the right blade tip to the ground. Both measurements taken should be within 1/16". If they are not, proceed to the next step.
- Remove the shoulder screw that holds the lift link to the hanger bracket on the side to be adjusted. See Figure 19.
- Turn the adjustable link the appropriate distance up or down. Every 1/2 turn equals 1/32".

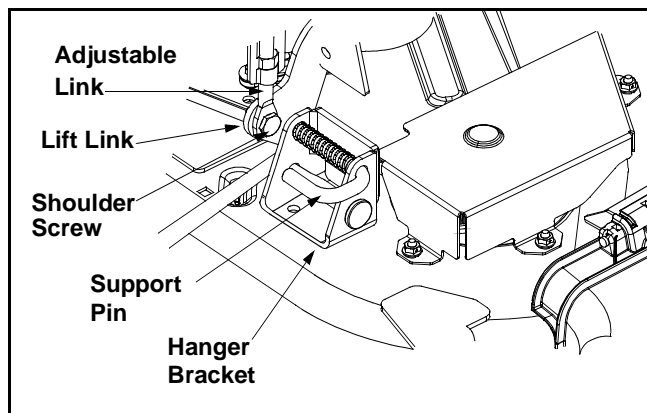


Figure 19

Front To Rear

- Position the Z-Series on a hard level surface and place the PTO switch in the OFF position.
- Engage the parking brake and turn the ignition switch to the OFF position and remove the key.
- Remove spark plug wire(s) from the spark plug(s).
- Raise the lift handle to the highest setting (7).
- Position the mower blades so the ends of each blade point to the front and to the rear of the Z-Series. See Figure 20.

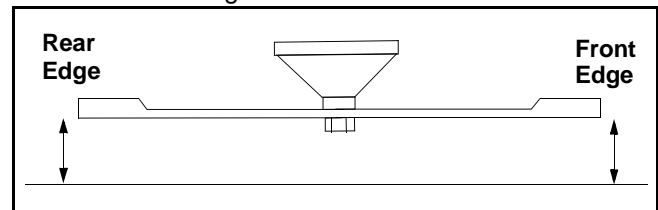


Figure 20

- Measure the distance from the front of the blade tip to the ground and the rear of the blade tip to the ground. The front edge of each blade should be lower than its back edge by 1/8" to 1/4". Determine the appropriate distance necessary for proper adjustment and proceed, if necessary, to the next step.
- Lower the deck to the lowest position.
- Loosen the rear jam nuts on the front lift rods and turn the front lock nuts clockwise to raise the front of the mower deck or counterclockwise to lower the front of the mower deck. See Figure 21.
- Raise the deck to the highest position. Recheck the blade measurements and repeat steps, if necessary.
- Tighten the rear jam nuts after adjustments of the front lift rods are completed.

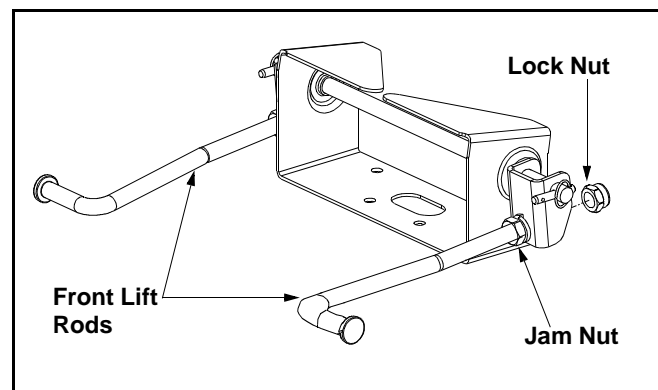


Figure 21

Removing The Mower Deck



WARNING: Do not remove deck immediately after operating the tractor. Allow the engine and other moving parts ample time to cool down.

- Position the Z-Series on a hard flat surface and engage the parking brake.
- Move the lift handle to the L position.
- Remove belt covers by removing hex nuts that hold on the covers. See Figure 22.

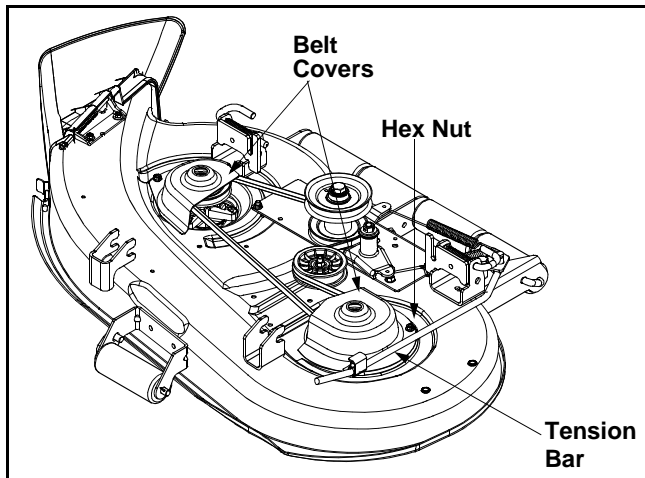


Figure 22

- Release the tension bar by pushing bar out of the bracket.
- Lift the tension bar over the bracket and allow the bar to rest on the mower deck.
- Pull support pin out to release hanger bracket from lift link and turn support pin until it is against outside of hanger bracket. See Figure 23.

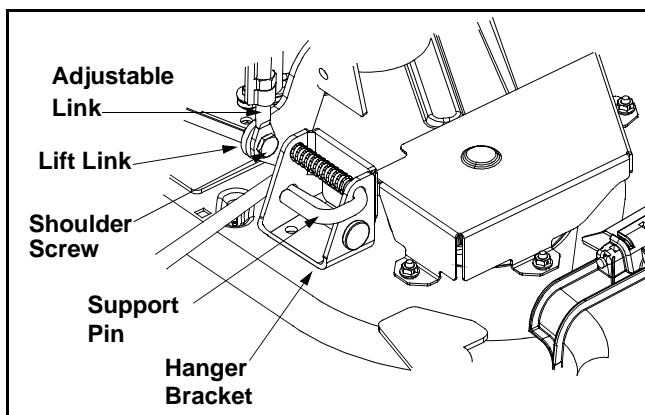


Figure 23

- Move the lift handle to position 7 (all the way up).
- Remove the belt from the outside pulley of the mower deck by pulling and holding the belt so part of it is outside the pulley.

- Turn the pulley counterclockwise until the belt is completely off the pulley.
- Locate the clutch pulley in the rear of the tractor below the muffler to remove the belt from the pulley. See Figure 24.

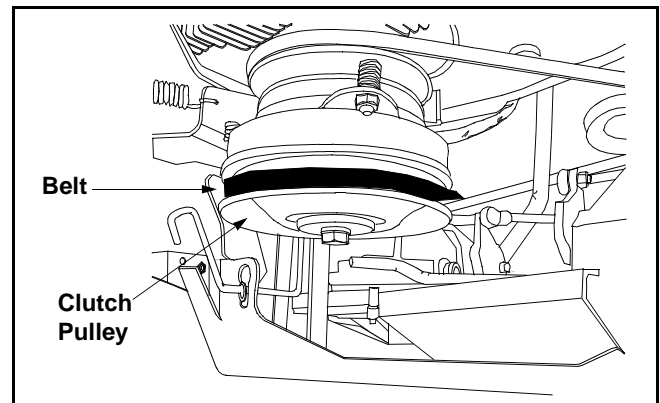


Figure 24

- From the front of the Z-Series, pull the mower deck towards you to release the retaining arms from the mower deck.
- Lift and hold up the retaining arms.
- Move the mower deck toward the rear of the tractor until the front lift rods clear the mower deck.
- From the right side, pull the mower deck out from under the tractor. See Figure 25.

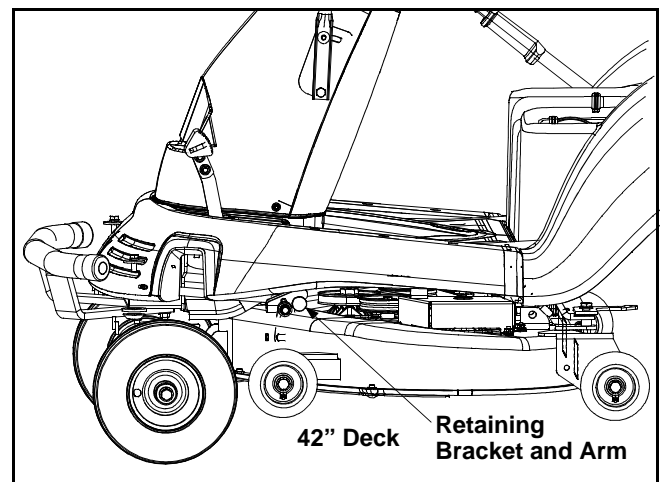


Figure 25

Installing Mower Deck Belt

- Remove the mower deck and the old mower deck drive belt from the mower deck.
- Install and route the new belt according to the routing diagram. See Figure 26.
- Install the mower deck. Refer to Installing The Mower Deck.

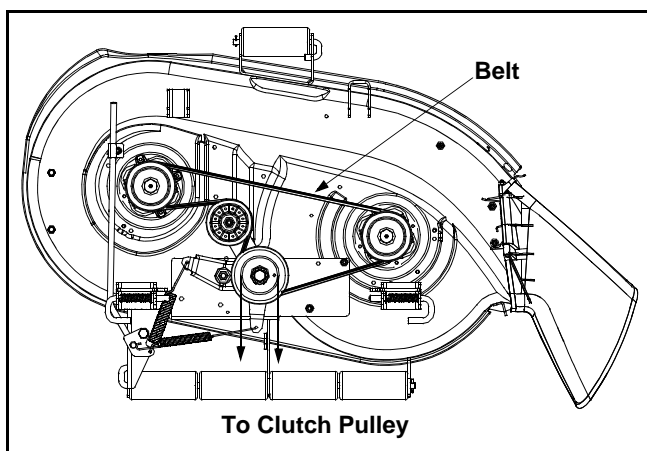


Figure 26

Installing The Mower Deck

- Slide the mower deck under the Z-Series, making sure belt covers are removed.
- From the rear, reach under the muffler cover and grasp the belt from the mower deck and bring it between the hydraulic units.
- Bring the belt between the pulley and the clutch. Do not put the belt into the pulley groove yet.
- From the front of the Z-Series, hold both front lift rods up and slide the mower deck forward until the lift rods go into the bracket.
- Slide the mower deck backwards to insert the front lift rods into the brackets. See Figure 25.
- Align the mower deck so the lift link aligns with the hanger bracket on the mower deck. See Figure 27.

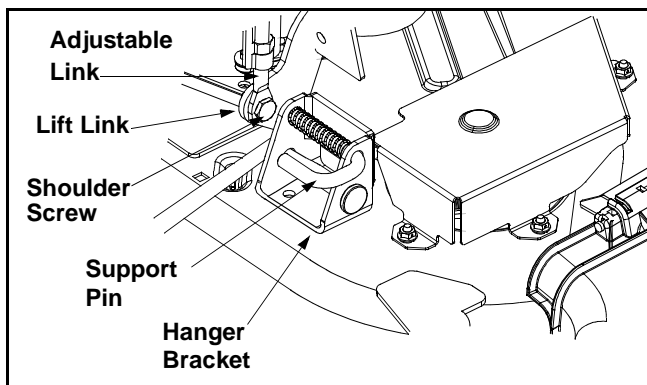


Figure 27

- Pull the support pin out and align with holes in hanger bracket and lift link.
- Release the support pin so that it goes through both holes to secure deck. Repeat these steps for other side of the deck.
- From the rear, attach the belt around the clutch pulley.
- Engage tension bar by moving it into the bracket to maintain belt tension and replace belt covers.

Mower Blades



WARNING: The mower blades are sharp and can cause severe injury. Always protect hands by wearing heavy leather work gloves to grasp blades.

- Secure the mower blade by putting a piece of wood between the blade and the housing. See Figure 28.
- Remove the hex flange nut that secures the blade to the spindle assembly.

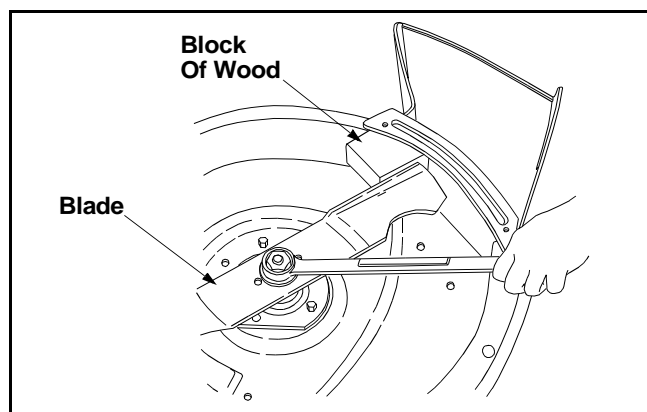


Figure 28

It is extremely important that each cutting blade edge be ground equally to maintain proper blade balance. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the unit, or result in personal injury. The blade can be tested by balancing it on a round shaft screwdriver. Grind metal from the heavy side until it balances evenly.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with a part number stamped in it) facing the ground when the mower is in the operating position.

IMPORTANT: Tighten the hex nut that secures mower blade to spindle to 100 ft-lbs.

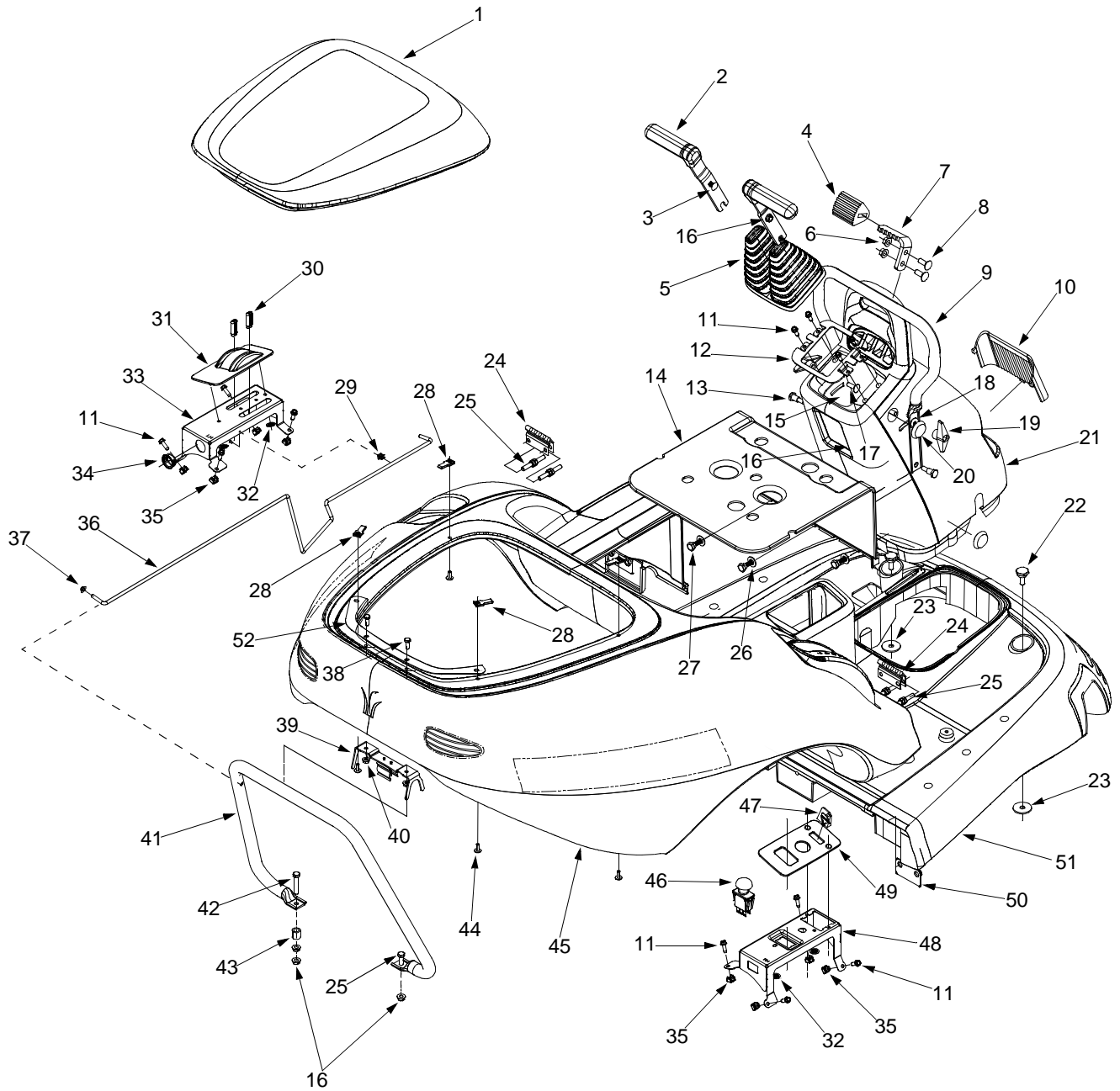


WARNING: Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.

SECTION 8: TROUBLESHOOTING

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	PTO switch engaged. Brake pedal not engaged. Spark plug wire disconnected. Throttle control lever not in correct starting position. Fuel tank empty, or stale fuel. Blocked fuel line. Faulty spark plug. Engine flooded.	Disengage PTO switch. Engage brake pedal. Connect wire to spark plug. Move throttle lever to FAST or START position. Fill tank with clean, fresh (not over 30 days) gasoline. Clean fuel line. Clean, adjust gap or replace. Crank engine with throttle in FAST position.
Engine runs erratic	Unit running in START position. Choke lever toward ON position. Spark plug wire loose. Blocked fuel line or stale fuel. Vent in gas cap plugged. Water or dirt in fuel system. Dirty air cleaner.	Move throttle lever to FAST position. Push choke lever to OFF position. Connect and tighten spark plug wire. Clean fuel line; fill tank with clean, fresh (not over 30 days) gasoline. Clear vent. Drain fuel tank. Refill with fresh fuel. Clean air cleaner.
Engine overheats	Engine oil level low. Air flow restricted.	Fill crankcase with proper oil. Remove blower housing and clean.
Occasional skip (hesitates) at high speed	Spark plug gap too close.	Adjust gap to .030".
Idles poorly	Spark plug fouled, faulty or gap too wide. Dirty air cleaner.	Reset gap to .030" or replace spark plug. Clean air cleaner.
Excessive vibration	Cutting blade loose or unbalanced. Bent cutting blade.	Tighten blade and adapter. Balance blade. Replace blade.
Mower will not mulch grass	Engine speed too low. Wet grass. Excessively high grass. Dull blade.	Set throttle at full throttle. Do not mow when grass is wet; wait until later to cut. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath (1/2 width). Sharpen or replace blade.
Uneven cut	Wheels not positioned correctly. Dull blade. Uneven tire pressure.	Place all four wheels in same height position. Sharpen or replace blade. Equal tire pressure in all four wheels.

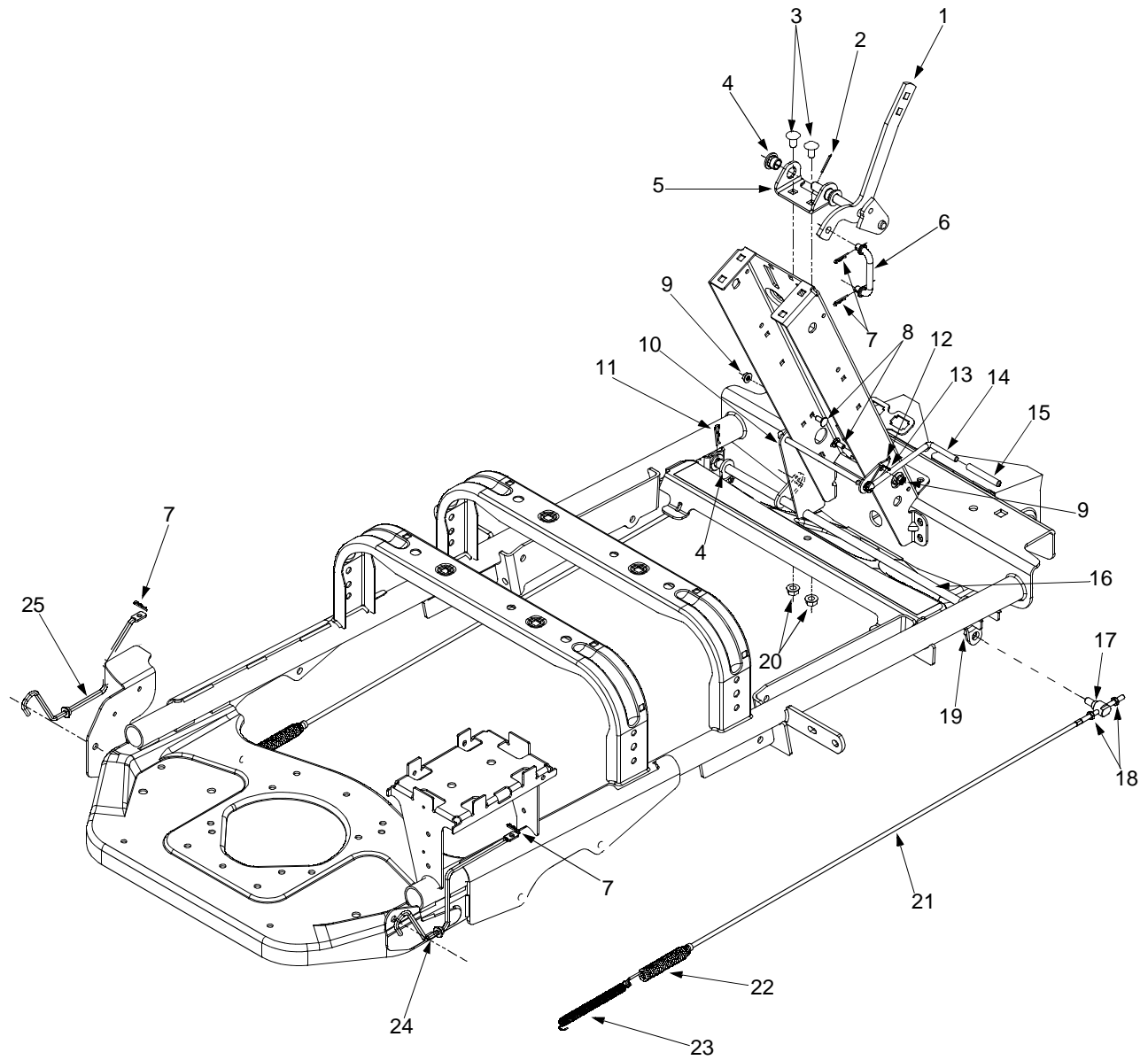
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	731-3326	Engine Cover	27.	738-0296	Shoulder Screw .437 x .286
2.	731-3263	Control Handle	28.	712-0185	Speed U-Type Nut 1/4-20
3.	710-0451	Carriage Bolt 5/16-18 x .750	29.	732-0830	Spring Clip
4.	735-0251	Foot Pad	30.	720-0302	Lever
5.	731-3185	Bellow	31.	731-3195A	Control Panel LH
6.	712-0431	Flange Lock Nut 3/8-16	32.	726-3047	Push Nut
7.	703-2807B	Mounting Bracket	33.	603-0424	Control Panel Asm LH
8.	710-3168	Carriage Bolt 3/8-16	34.	723-3042	Snap Bushing
9.	749-3081	Cruise Control Handle	35.	712-0453	Retainer Nut 1/4-20
10.	731-3128A	Lens	36.	747-3303	Support Rod
11.	710-0642	Hex Washer Screw 1/4-20 x .750	37.	726-0106	Speed Cap 1/4
12.	703-2648	Bellow Retainer Bracket	38.	710-3015	Hex Cap Screw 1/4-20 x .75
13.	738-0754	Shoulder Screw .437 x .54	39.	603-0643	Spring Clip Bracket Asm
14.	731-3325	Seat Base	40.	712-3027	Hex Flange Nut 1/4-20
15.	703-3288	Cruise Control Mounting Bracket	41.	749-3082	Engine Support Tube
16.	712-3004A	Flange Lock Nut 5/16-18	42.	710-3180	Hex Cap Screw 5/19-18 x 1.75
17.	710-0276	Carriage Screw 5/16-18 x 1.0	43.	750-3200	Spacer
18.	736-0242	Bell Washer .340 ID x .872 OD	44.	710-0946	Machine Screw 1/4-20 x .625
19.	720-0241	Wing Nut Knob 5/16-18	45.	731-3327	Body
20.	726-0289	Plug	46.	725-3233	Electric PTO Knob
21.	731-3329	Console	47.	703-1341B	Key
22.	738-3163A	Shoulder Screw .75 x .245 3/8-16	48.	603-0425	Control Panel Asm RH
23.	736-3039	Flat Washer .406 x 1.5	49.	731-3196	Control Panel Cover RH
24.	703-2928	Body Hinge	50.	603-0578	Body Mounting Plate Asm
25.	710-0376	Hex Cap Screw 5/16-18 x 1.0	51.	731-3328	Front Body Floor
26.	736-0226	Flat Washer .474 ID x .879 OD	52.	703-3078	Support Latch Bracket

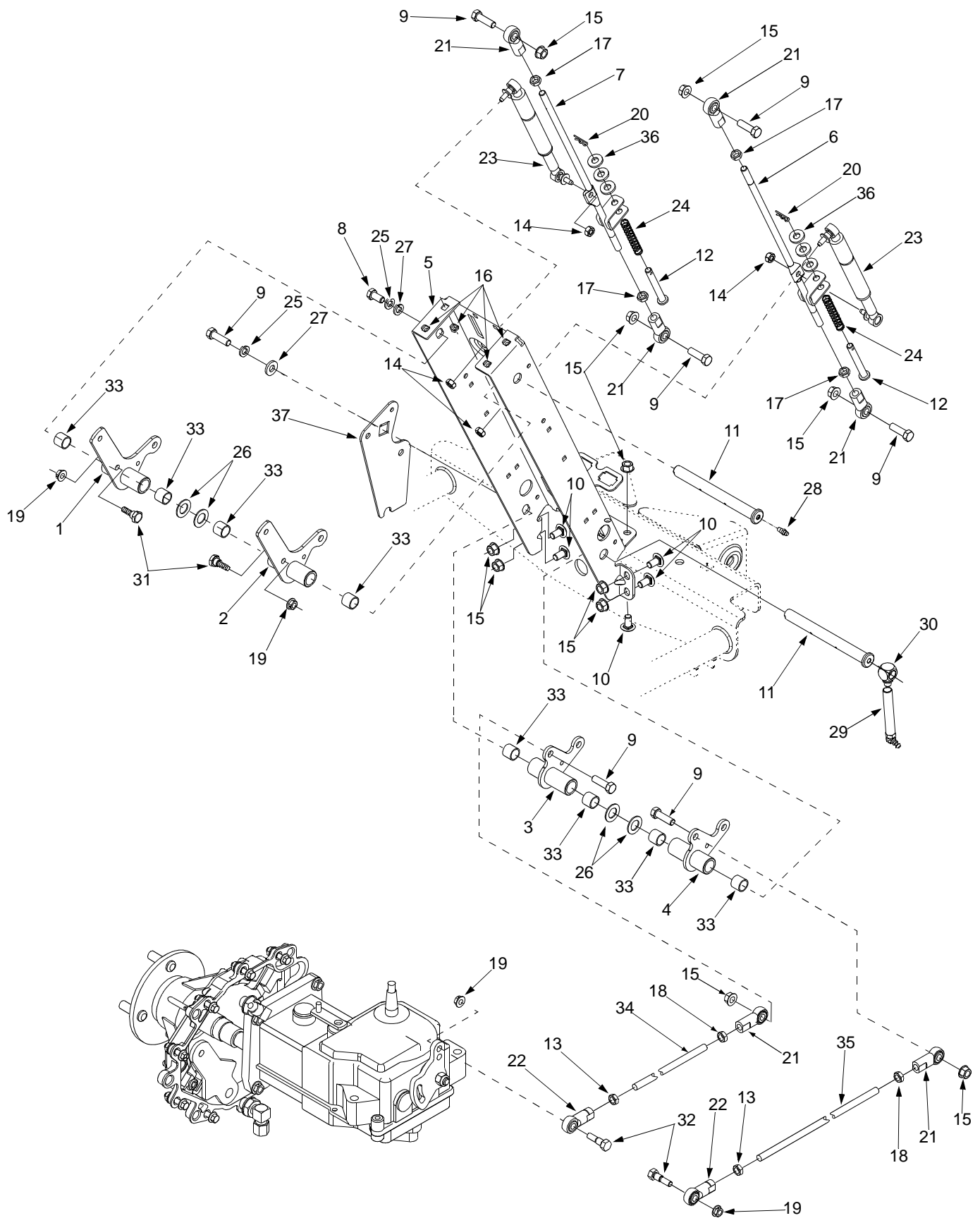
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION
1.	603-0649	Parking Brake Shift Ass'y
2.	714-3004	Cotter Pin
3.	710-3178	Carriage Bolt 3/8-16 x .75
4.	741-0324	Hex Flange Bearing .506 ID x .590
5.	703-3400	Brake Mounting Bracket
6.	747-3404	Connecting Brake Rod
7.	714-0104	Cotter Pin
8.	710-0134	Carriage Screw 1/4-20 x .62
9.	712-3027	Hex Flange Lock Nut 1/4-20
10.	703-3405	Support Plate
11.	714-0101	Cotter Pin
12.	703-2857	Retaining Rod Bracket
13.	732-0827	Torsion Spring 5/16
14.	747-3397	Parking Brake Retaining Rod
15.	735-0664	Parking Brake Pad
16.	603-0683	Brake Rod Ass'y
17.	711-3357	Ferrule
18.	712-0314	Jam Nut 1/4-28
19.	736-0258	Flat Washer .385 ID x 1.0 OD
20.	712-0431	Flange Lock Nut 3/8-16
21.	747-3266A	Bracket Rod
22.	732-0463	Extension Spring
23.	732-0800	Extension Spring
24.	747-3284	Release Pump Rod RH
25.	747-3363	Release Pump Rod LH

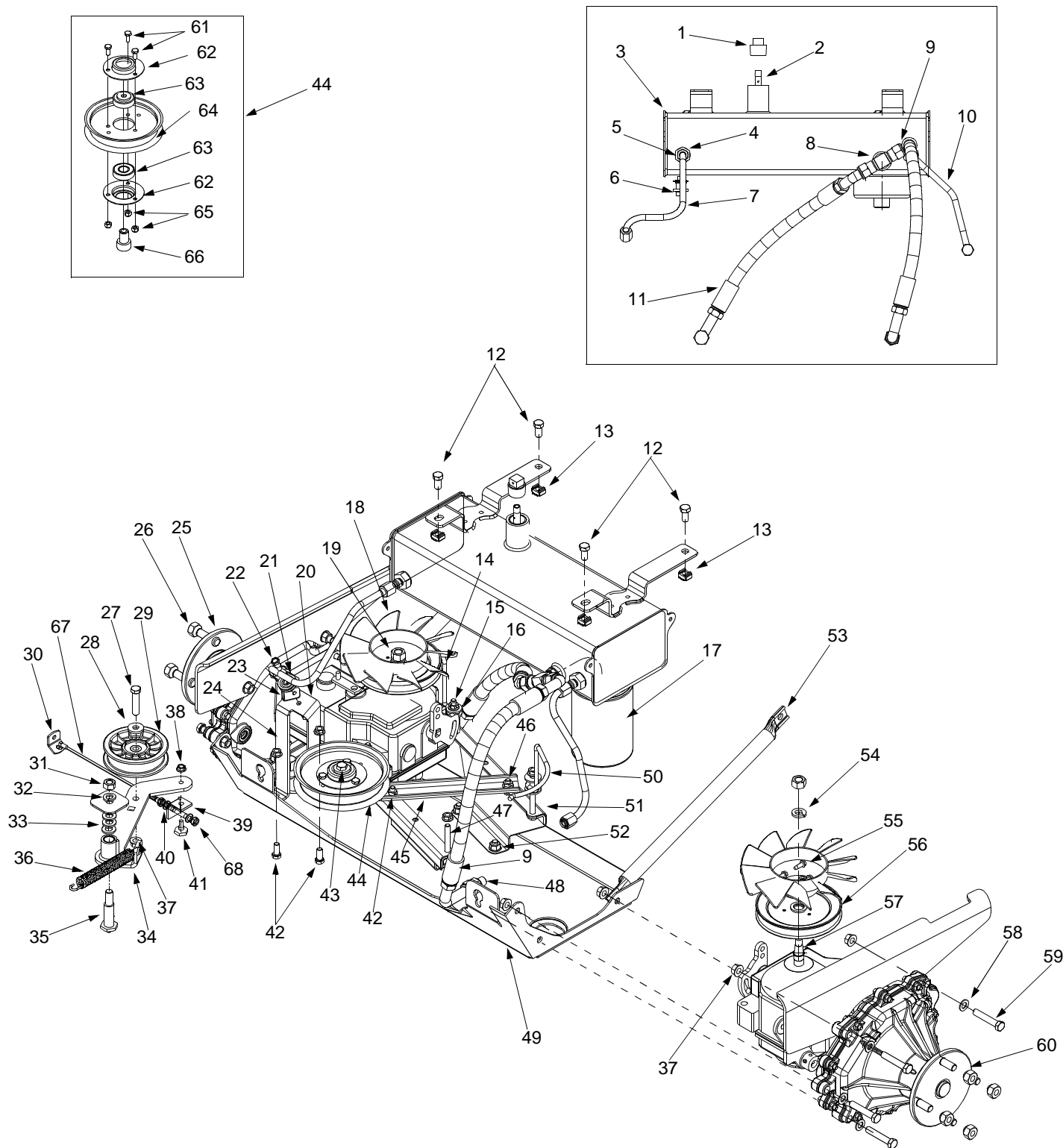
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	603-0340	Bellcrank Ass'y Upper LH	20.	714-0104	Cotter Pin
2.	603-0341	Bellcrank Ass'y Upper RH	21.	723-0420	Spherical Rod End RH 3/8-24
3.	603-0342	Bellcrank Ass'y Lower LH	22.	723-0421	Spherical Rod End LH 3/8-24
4.	603-0343	Bellcrank Ass'y Lower RH	23.	727-3113	Damper Cylinder
5.	603-0647	Support Ass'y Tower	24.	732-3084	Spring Compression
6.	603-0410	Rod Ass'y Control RH	25.	736-0169	Lock Washer 3/8
7.	603-0411	Rod Ass'y Control LH	26.	736-0539	Thrust Washer .625 ID x 1.12 OD
8.	710-0216	Hex Cap Screw 3/8-16 x .75	27.	736-3004	Flat Washer .406 ID x .875 OD
9.	710-3005	Hex Cap Screw 3/8-16 x 1.25	28.	737-0280	Grease Fitting
10.	710-3178	Carriage Bolt 3/8-16 x .75	29.	737-3072	Grease Fitting w/Tube
11.	711-1111	Control Shaft	30.	737-3073	Adapter 1/4-20
12.	711-1124	Pin	31.	738-0296	Shoulder Bolt .437 Dia. x .268
13.	712-0312	Hex Jam Nut LH 3/8-24	32.	738-3153	Shoulder Bolt
14.	712-0365	Hex Center Lock Nut	33.	741-3063	Sleeve Bearing
15.	712-0431	Hex Flange Lock Nut 3/8-16	34.	747-3281	Control Rod LH 31-5/8
16.	712-0453	Retainer 1/4-20	35.	747-3282	Control Rod RH 35-3/8
17.	712-0711	Hex Jam Nut 3/8-24	36.	736-0300	Flat Washer .406 ID x .87 OD
18.	712-3001	Hex Jam Nut 3/8-24	37.	703-3405	Support Plate
19.	712-3004A	Hex Flange Lock Nut 5/16-18			

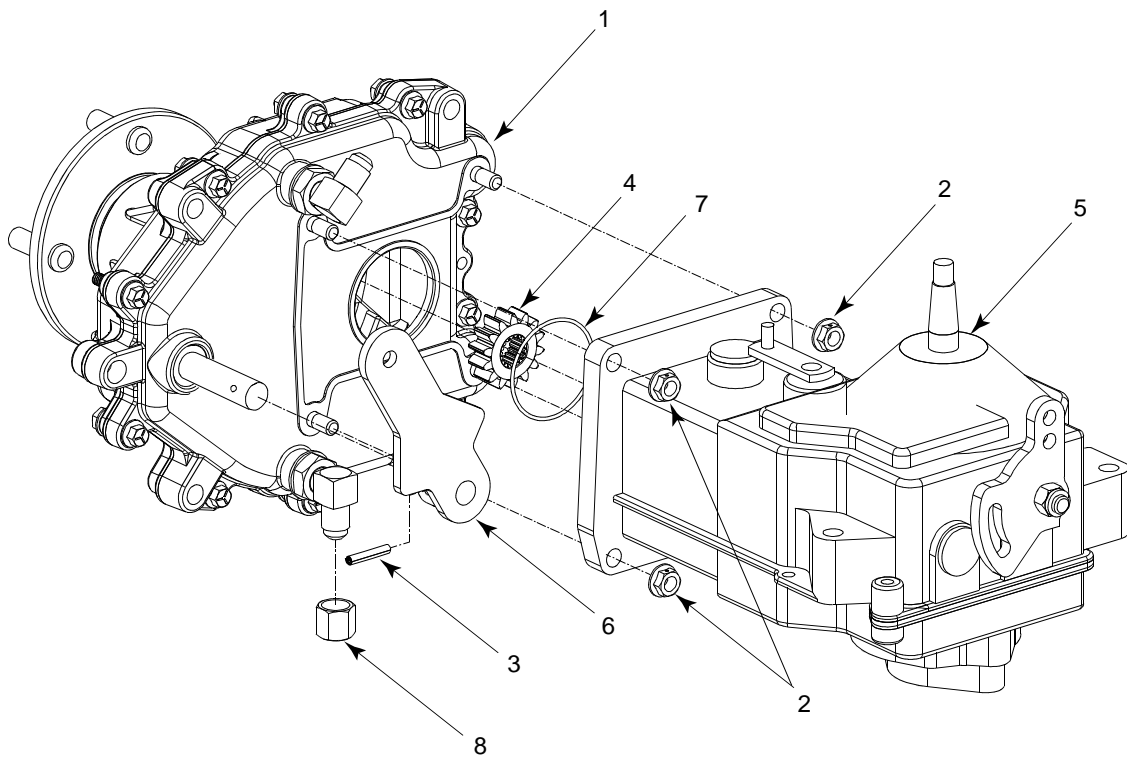
Model 53AA1A3G401



Model 53AA1A3G401

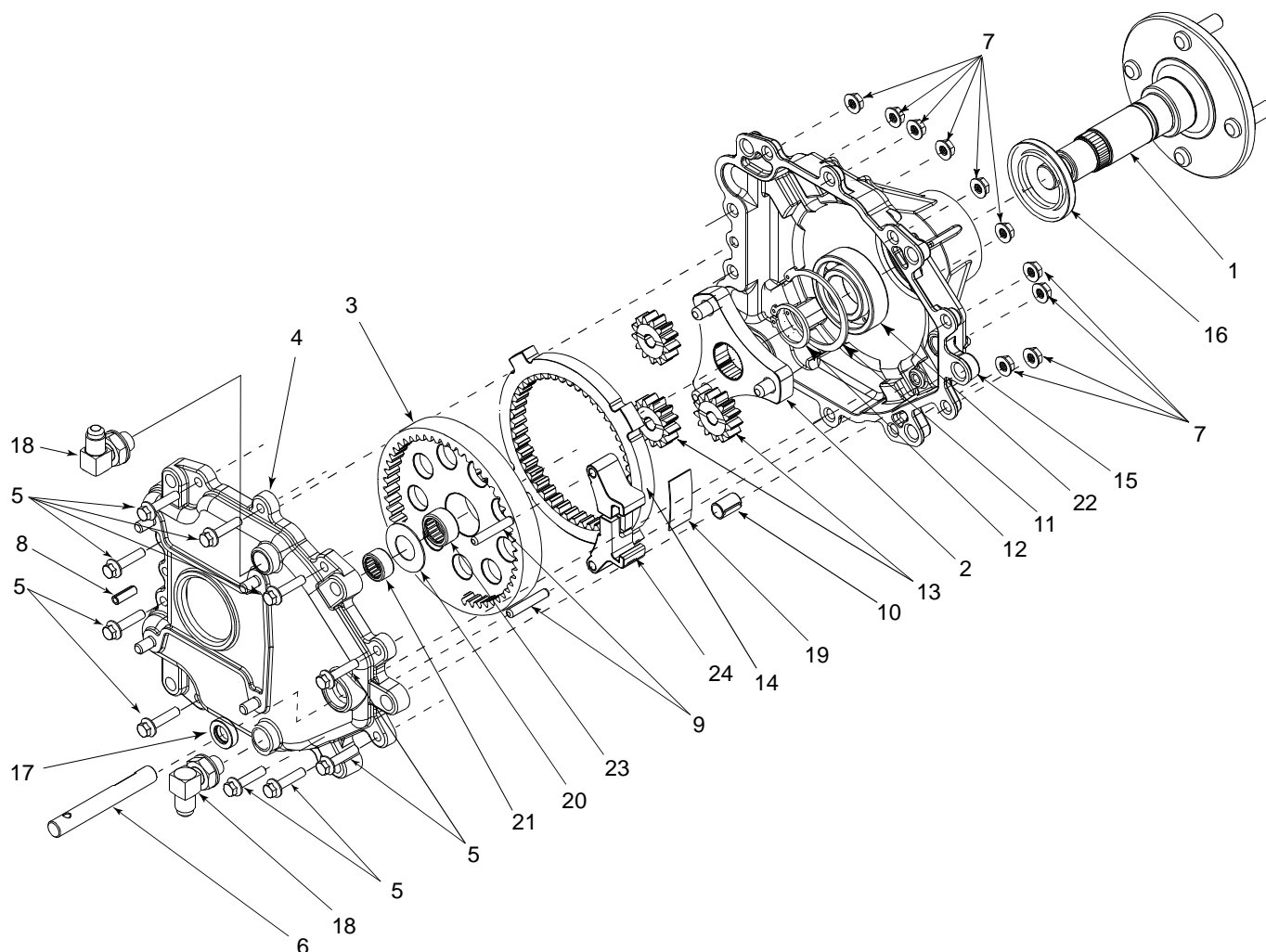
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	737-3069	Pipe Plug	35.	603-0102	Shoulder Screw
2.	737-3070A	Pipe Dipstick	36.	732-0478	Extension Spring 6.12 Lg
3.	603-0639	Hydraulic Tank Assembly	37.	712-0431	Flange Lock Nut 3/8-16
4.	727-3116	Connection Fitting	38.	712-3027	Lock Nut 1/4-20
5.	721-0223	Seal	39.	703-3380	Declutching Cable Bracket
6.	738-0940	Drain Plug	40.	736-0119	Lock Washer 5/16
7.	727-3120	Inlet Tube LH	41.	738-0704	Shoulder Screw
8.	727-3155	Tee Fitting	42.	710-3008	Hex Cap Screw 5/16-18 x .75
9.	727-3154	Outlet Hose RH	43.	710-3011	Hex Cap Screw 3/8-16 x 2.25
10.	727-3121	Inlet Tube RH	44.	603-0362	Idler Pulley Assembly 5.0"
11.	727-3153	Outlet Hose LH	45.	703-2888	Idler Bracket
12.	710-0216	Hex Cap Screw 3/8-16 x .75	46.	712-3004A	Flange Lock Nut 5/16-18
13.	712-0455	Retainer Nut 3/8-16	47.	710-3103	Hex Cap Screw 5/16-18 x 2.0
14.	747-3360A	Belt Retainer Rod RH	48.	727-3100	Connection Fitting 1/2 x 3/8
15.	710-0378	Hex Cap Screw 5/16-18 x 2.5	49.	603-0358B	Skid Plate Assembly
16.	736-3089	Flat Washer 5/16	50.	747-3361	Belt Rod LH
17.	723-3071	Filter Element	51.	603-0450	Support Pump Assembly
18.	731-1449A	Fan Blade	52.	710-3178	Carriage Bolt 3/8-16 x .75
19.	712-0333	Hex Nut 1/2-20	53.	749-3040	Frame Strut
20.	703-3168	Mounting Pulley Bracket	54.	736-0921	Lock Washer 1/2
21.	756-0625	Roller Cable	55.	710-1189	Hex Washer Screw #12-24 x .625
22.	738-0924	Hex Shoulder Screw 1/4-28 x .375	56.	756-0974	Transmission Pulley
23.	703-3169	Retainer Cable Bracket	57.	732-0729	Wire Ring
24.	712-0117	Lock Nut 1/4-28	58.	736-0185	Flat Washer
25.	618-3165	Complete Transmission Assembly LH	59.	710-3144	Hex Cap Screw 3/8-16 x 2.0
26.	712-3050	Lug Nut	60.	618-3164	Complete Transmission Assembly RH
27.	710-0347	Hex Cap Screw 3/8-16 x 1.75	61.	710-0751	Hex Cap Screw 1/4-20 x .62
28.	736-0258	Flat Washer .385 ID x 1.0 OD	62.	703-2907	Bearing Cup
29.	756-0627	Flat Idler Pulley 3.5 OD	63.	741-0600	Ball Bearing
30.	703-3174	Mounting Bracket Cable	64.	756-3085	Idler Pulley 5.0"
31.	712-3019	Hex Nut 7/16-14	65.	712-0324	Hex Lock Nut 1/4-20
32.	736-0171	Lock Washer 7/16	66.	750-3176	Idler Spacer
33.	736-3015	Flat Washer .469 ID x .875 OD	67.	746-3089	Declutching Cable
34.	603-0377A	Idler Arm Assembly	68.	712-3007	Jam Nut 5/16-18

Model 53AA1A3G401



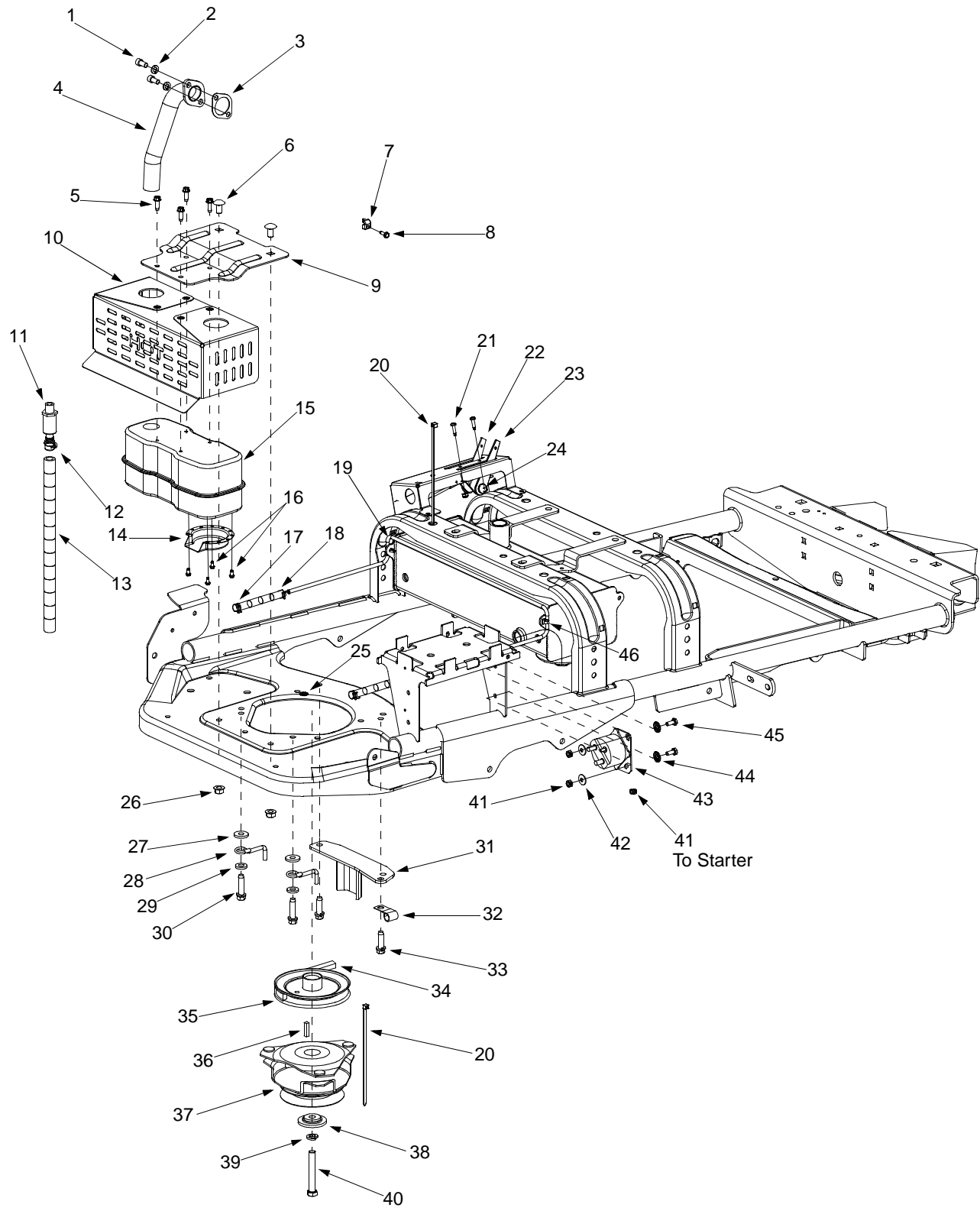
REF. NO.	PART NO.	DESCRIPTION
1.	618-3110A	Drive Ass'y Complete
2.	712-3004A	Hex Flange Lock Nut 5/16-18
3.	715-0136	Spiral Pin 3/16 x 1.25
4.	717-3396	Spur Gear 14T
5.	717-3455	Hydro Transmission
6.	718-3053	Parking Brake Lever
7.	721-0343	O-Ring 2.0 Dia.
8.	727-3125	Cap Nut 3/8

Model 53AA1A3G401



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
	618-3110A	Drive Ass'y Complete	13.	717-3395	Spur Gear 13T
1.	611-3012	Axle Assembly	14.	717-3397	Ring Gear 46T
	710-0852	Ribbed Neck Stud	15.	719-3114	Axle Outer Housing
2.	618-3106	Carrier Assembly, Output	16.	721-0381	Oil Seal
3.	618-3107	Gear Assembly, 51T Internal & 20T	17.	721-0393	Oil Seal
4.	618-3109	Housing Ass'y	18.	727-3124	Elbow Fitting
5.	710-1342	Hex Washer Screw 1/4-20 x 1-1/8	19.	732-0752	Brake Shoe Spring
6.	711-1048	Brake Shaft	20.	736-0351	Shim Washer .76 x 1.5 x .030
7.	712-3027	Hex Flange Lock Nut 1/4-20		736-0492	Shim Washer .76 x 1.5 x .010
8.	715-0156	Roll Pin		736-0493	Shim Washer .76 x 1.5 x .020
9.	715-0219	Dowel Pin	21.	741-0665	Needle Bearing
10.	715-3045	Bushing	22.	741-3033A	Ball Bearing
11.	716-3015	Inverted Retaining Ring	23.	741-3080	Needle Bearing
12.	716-3018	Snap Ring	24.	761-3049	Shoe Brake

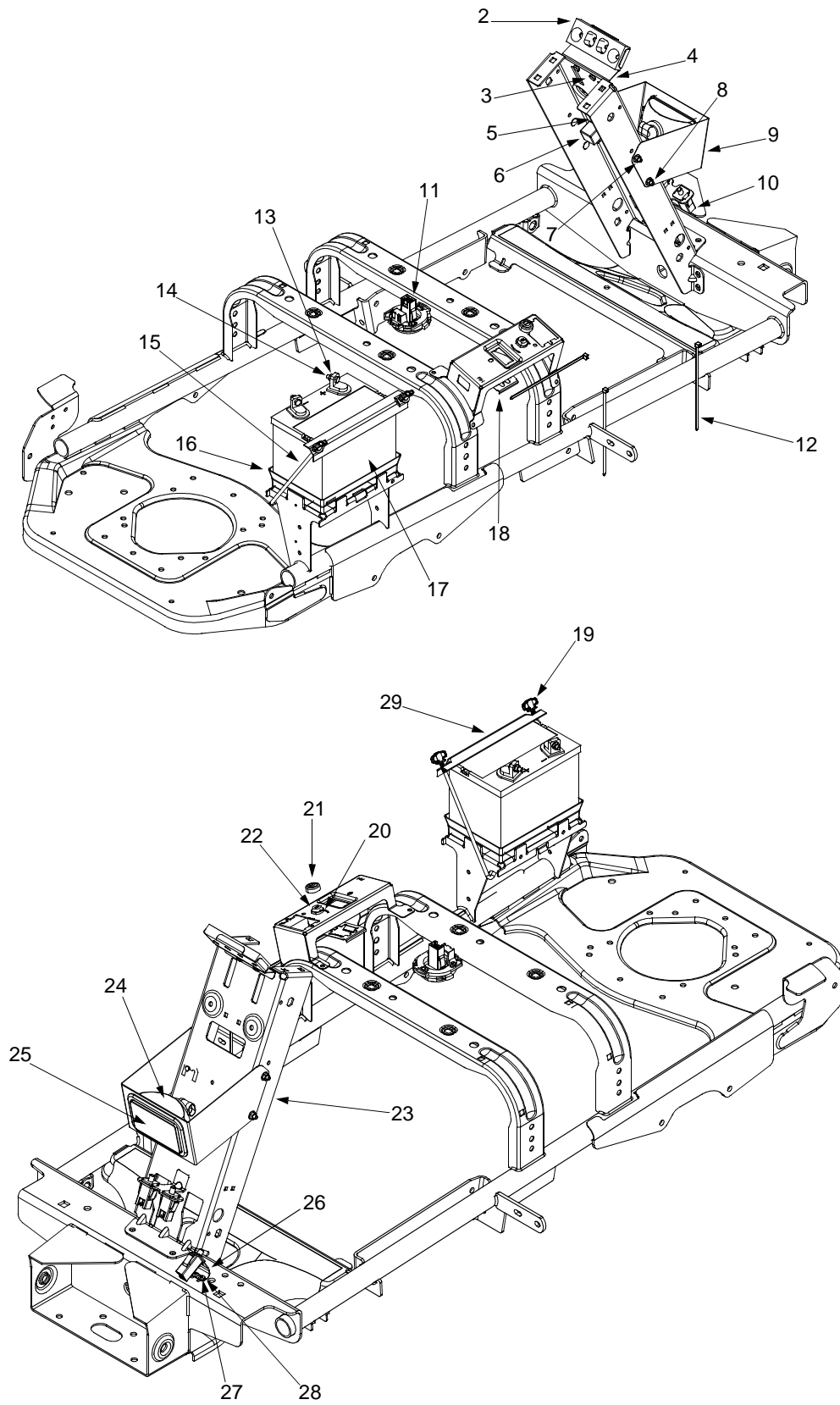
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	710-1314	Socket Screw 5/16-18 x .625	24.	712-0161	Hex Lock Nut #10-24
2.	736-0119	Lock Washer 5/16	25.	736-0607	Lock Washer 5/16
3.	721-0208	Gasket	26.	712-0431	Flange Lock Nut 3/8-16
4.	751-0619	Exhaust Pipe	27.	736-0258	Flat Washer .385 x 1.0
5.	710-0642	Hex Washer Screw 1/4-20 x .750	28.	747-3362	Rear Belt Retainer Rod
6.	710-3178	Carriage Bolt 3/8-16 x .75	29.	736-3010	Flat Washer .407 x .812
7.	751B213146	Casing Clamp	30.	710-1007	Hex Washer Screw 3/8-16 x 1.5
8.	710-1237	Hex Washer screw #10-32 x .625	31.	603-0317	Clutch Retainer Assembly
9.	703-2859	Muffler Bracket	32.	726-3008	Heat Shield Cable Clip
10.	703-3004	Muffler Guide	33.	710-0502A	Hex Washer Screw 3/8-16 x 1.25
11.	751-3140	Oil Drain	34.	754-3100	V-Belt
12.	751-3142	Oil Drain Cap	35.	756-3060A	Transmission Drive Pulley
13.	751-3141	Oil Drain Hose	36.	714-0128	Key
14.	751-0564	Muffler Deflector	37.	717-3467	Electric Clutch
15.	751-0617	Muffler	38.	750-3106	Spacer Clutch
16.	710-0148	Hex Washer Screw #8-32 x .375	39.	736-0171	Lock Washer 7/16
17.	726-0205	Hose Clamp	40.	710-0510	Hex Cap Screw 7/16-20 x 3.0
18.	751-0535	Fuel Line Hose	41.	712-0291	Hex Lock Nut 1/4-20
19.	749-3048	Fuel Line	42.	736-0270	Bell Washer .265 x .75
20.	725-0157	Cable Tie	43.	725-3001	Solenoid Switch
21.	710-3009	Screw #10-24 x .75	44.	736-3006	Lock Washer 1/4 ID x 3/4 OD
22.	746-3074	Throttle Cable	45.	710-0751	Hex Cap Screw 1/4-20 x .620
23.	746-3073	Choke Cable	46.	725-1711	Retainer Clip

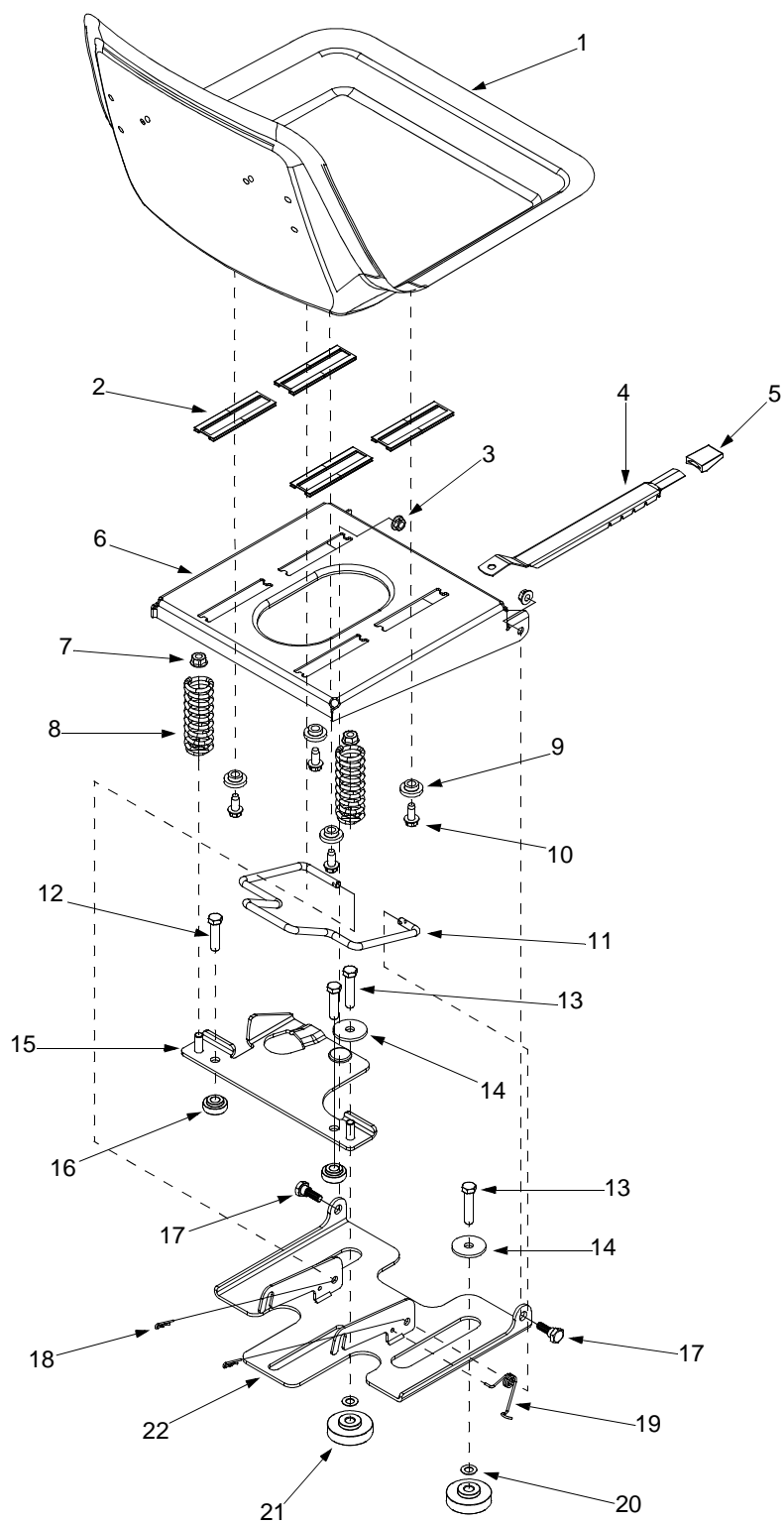
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	629-3033	Main Wire Harness - Not Shown	16.	731-3233	Battery Tray
2.	723-0455	Foam Protector	17.	725-1722	Battery
3.	710-3013	Hex Cap Screw 1/4-20 x .50	18.	783-0462	PTO Switch Retainer Bracket
4.	703-2809	Indicator Mounting Bracket	19.	712-0397	Wing Nut 1/4-20
5.	726-0349	Ratchet Retainer	20.	725-1346	Ignition Switch Nut 5/8-32
6.	725-1718	Relay	21.	725-1347	Ignition Cap Switch
7.	712-3027	Hex Flange Nut 1/4-20	22.	725-3163	Ignition Switch
8.	710-0134	Carriage Screw 1/4-20 x .62	23.	725-3251	Voltage Sensor
9.	703-2836	Headlight Mounting Bracket	24.	725-3250	Headlight Assembly
10.	725-3164A	Safety Switch	25.	731-3184	Headlight
11.	725-3253	Seat Switch	26.	732-0816	Switch Mounting Spring
12.	725-0157	Cable Tie	27.	710-0425	Machine Screw #10-24 x 5/8
13.	712-0271	Hex Nut 1/4-20	28.	712-0161	Hex Lock Nut #10-24
14.	710-3015	Hex Cap Screw 1/4-20 x .75	29.	703-3149A	Battery Strip
15.	747-3347	Battery Retainer Rod			

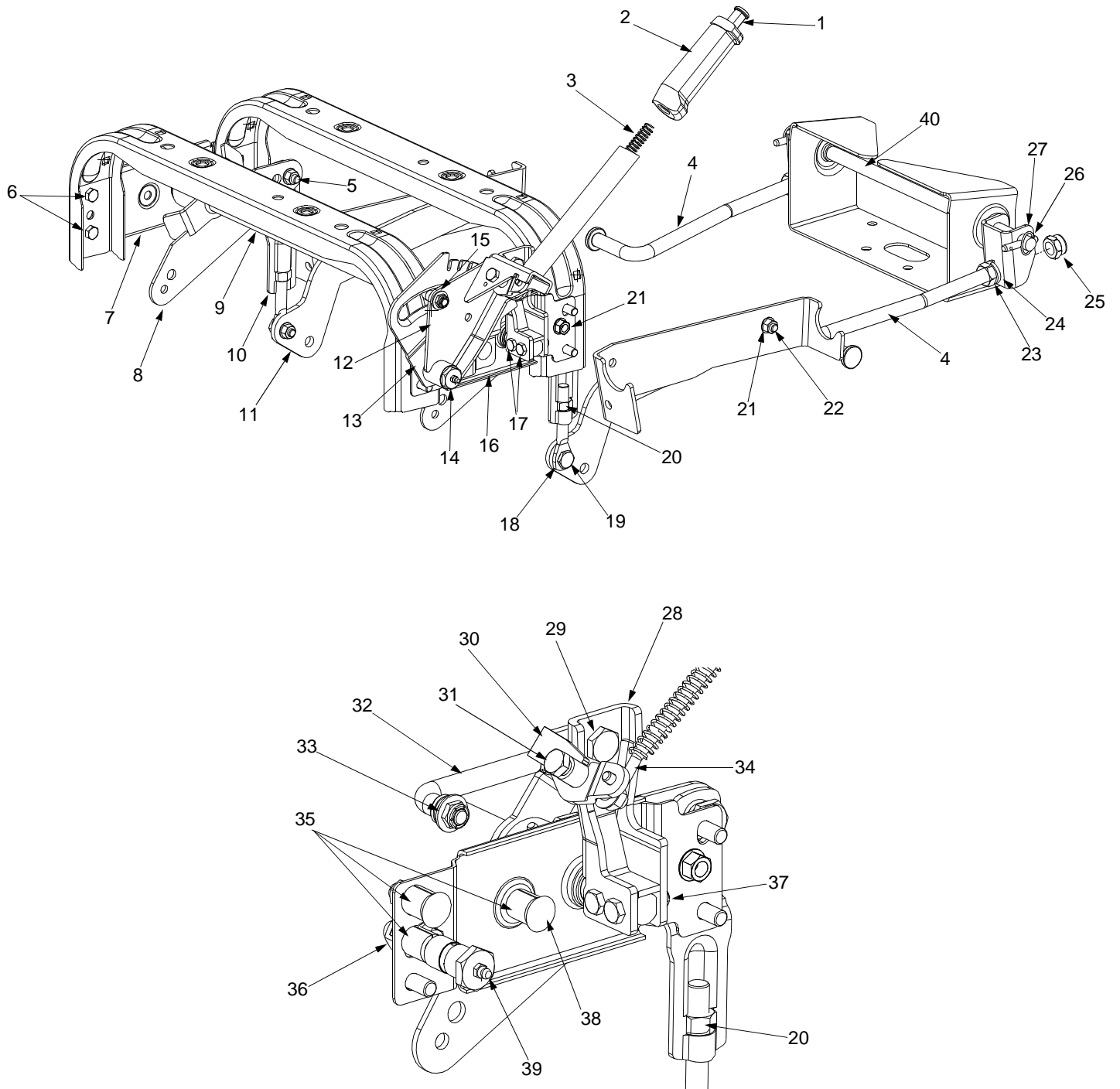
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION
1.	757-3014	Seat
2.	731-3154	Seat Slide
3.	712-3004A	Flange Lock Nut 5/16-18
4.	732-3098	Spring Index
5.	720-0190	Height Adjustment Knob
6.	603-0294	Seat Base Bracket Assembly
7.	712-3005	Flange Lock Nut 3/8-16
8.	732-3080	Spring Compression
9.	738-0372	Shoulder Spacer
10.	710-1260A	Hex Washer Screw 5/16-18 x .750
11.	747-3342	Rod
12.	710-0520	Hex Cap Screw 3/8-16 x 1.5
13.	710-0347	Hex Cap Screw 3/8-16 x 1.75
14.	736-0227	Flat Washer .390 ID x 1.5 OD
15.	603-0318A	Seat Spring Plate Assembly
16.	738-3156	Shoulder Spacer
17.	738-0296	Shoulder Screw
18.	714-0104	Cotter Pin
19.	732-0827	Torsion Spring 5/16
20.	736-0314	Thrust Washer
21.	738-3166	Shoulder Spacer
22.	603-0470	Seat Mounting Bracket Assembly

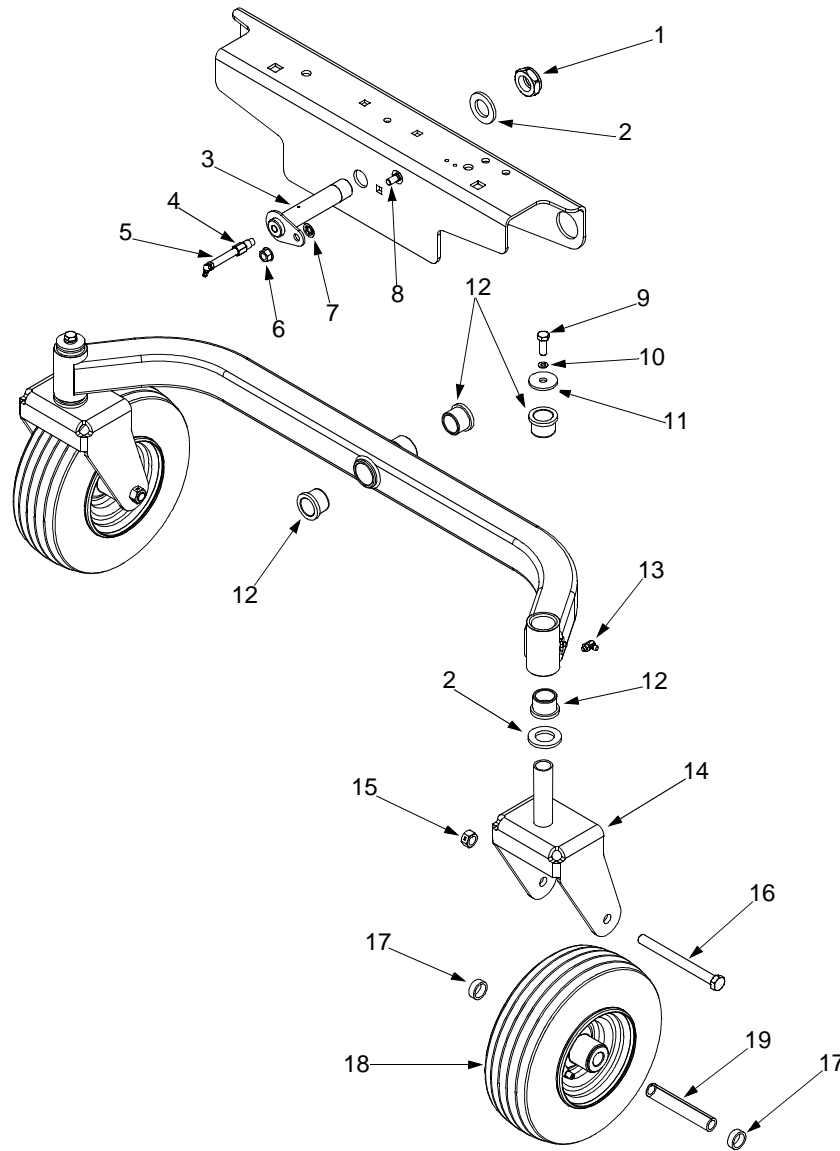
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Model 53AA1A3G401

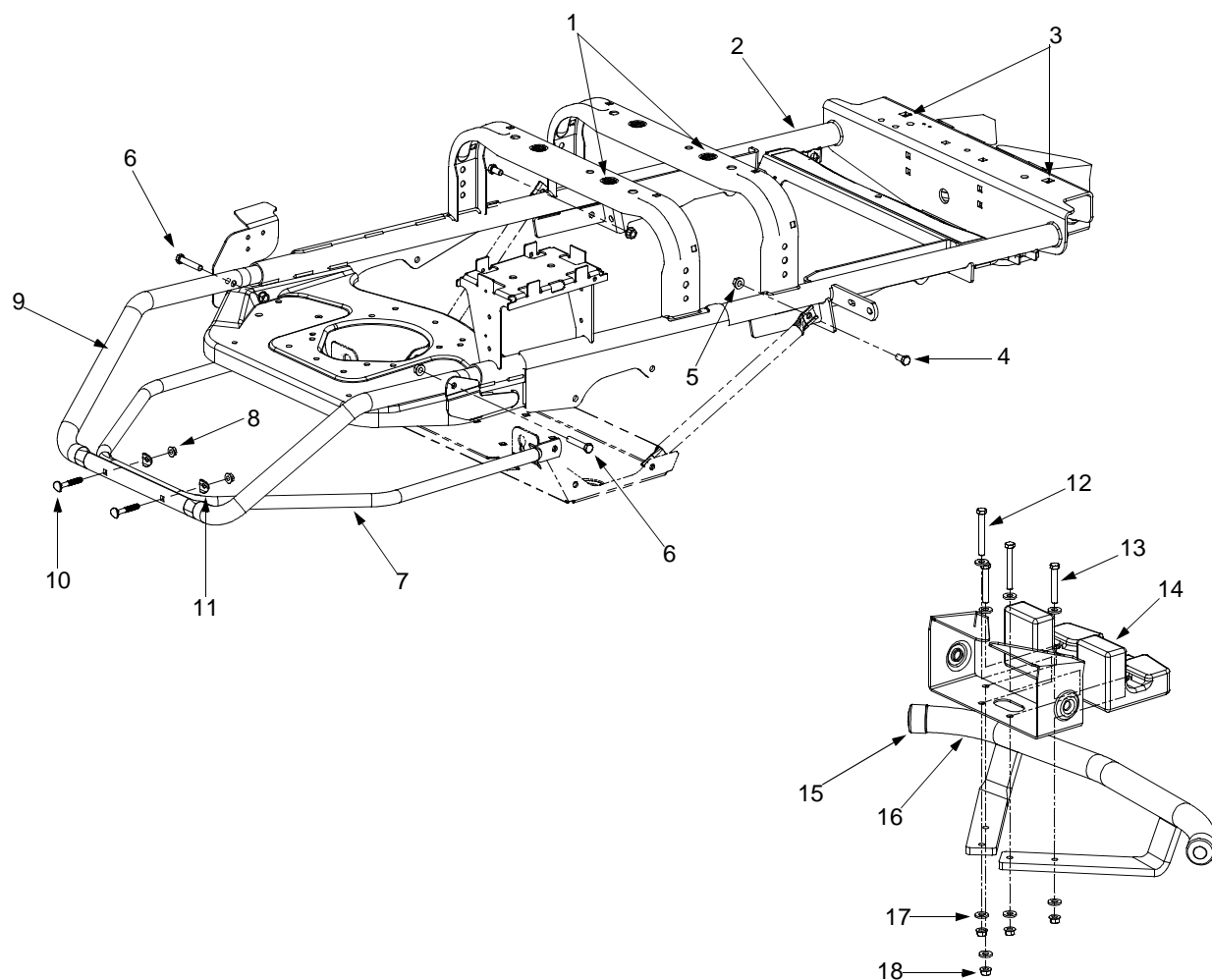
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	711-0642A	Handle Button	21.	712-0431	Flange Lock Nut 3/8-16
2.	731-3158	Handle Deck Lift Grip	22.	738-3151	Shoulder Screw 3/8-16 .56 x .27
3.	732-3097	Compression Spring	23.	712-3015	Jam Nut 5/8-11
4.	747-3405	Front Lift Rod	24.	736-0158	Lock Washer 5/8
5.	738-0507B	Shoulder Screw .500 Dia x .434	25.	712-3016	Lock Hex Nut 5/8-11
6.	710-0216	Hex Cap Screw 3/8-16 x .75	26.	711-3266	Clevis Pin
7.	603-0422	Shaft Mounting Bracket - LH	27.	703-3407	Front Lift Bracket
8.	603-0370	Pivot Link Bearing Ass'y	28.	603-0401	Lift Arm Ass'y
9.	603-0313	Lift Shaft Ass'y	29.	738-0183	Shoulder Screw 3/8-16 .50 x .21
10.	703-2621	Adjustable Deck Lift Link	30.	603-0257	Fork Lift Ass'y
11.	703-2780	Lift Parallel Link	31.	710-3011	Hex Cap Screw 3/8-16 x 2.25
12.	603-0327	Handle Bearing Ass'y	32.	747-3276	Lift Link Rod
13.	703-2772	Deck Height Adjustable Plate	33.	736-0300	Flat Washer .406 x .875
14.	738-3150	Lift Handle Shoulder Screw	34.	747-3267	Handle Arm
15.	712-3020	Top Lock Jam Nut 3/8-16	35.	750-3200	Spacer .448 ID x .688 OD
16.	603-0423	Shaft Mounting Bracket - RH	36.	712-0290	Lock Nut 7/16-14
17.	710-3083	Hex Cap Screw 5/16-18 x 1.375	37.	712-3009	Hex Center L-Nut 5/16-18
18.	711-0773	Eye Bolt Adjustable Link	38.	710-0431	Hex Screw 3/8-16 x 1.50
19.	738-0380	Shoulder Screw 3/8-16	39.	737-0280	Grease Fitting
20.	712-0206	Hex Nut 1/2-13	40.	747-3406	Front Mounting Rod Bracket

Model 53AA1A3G401



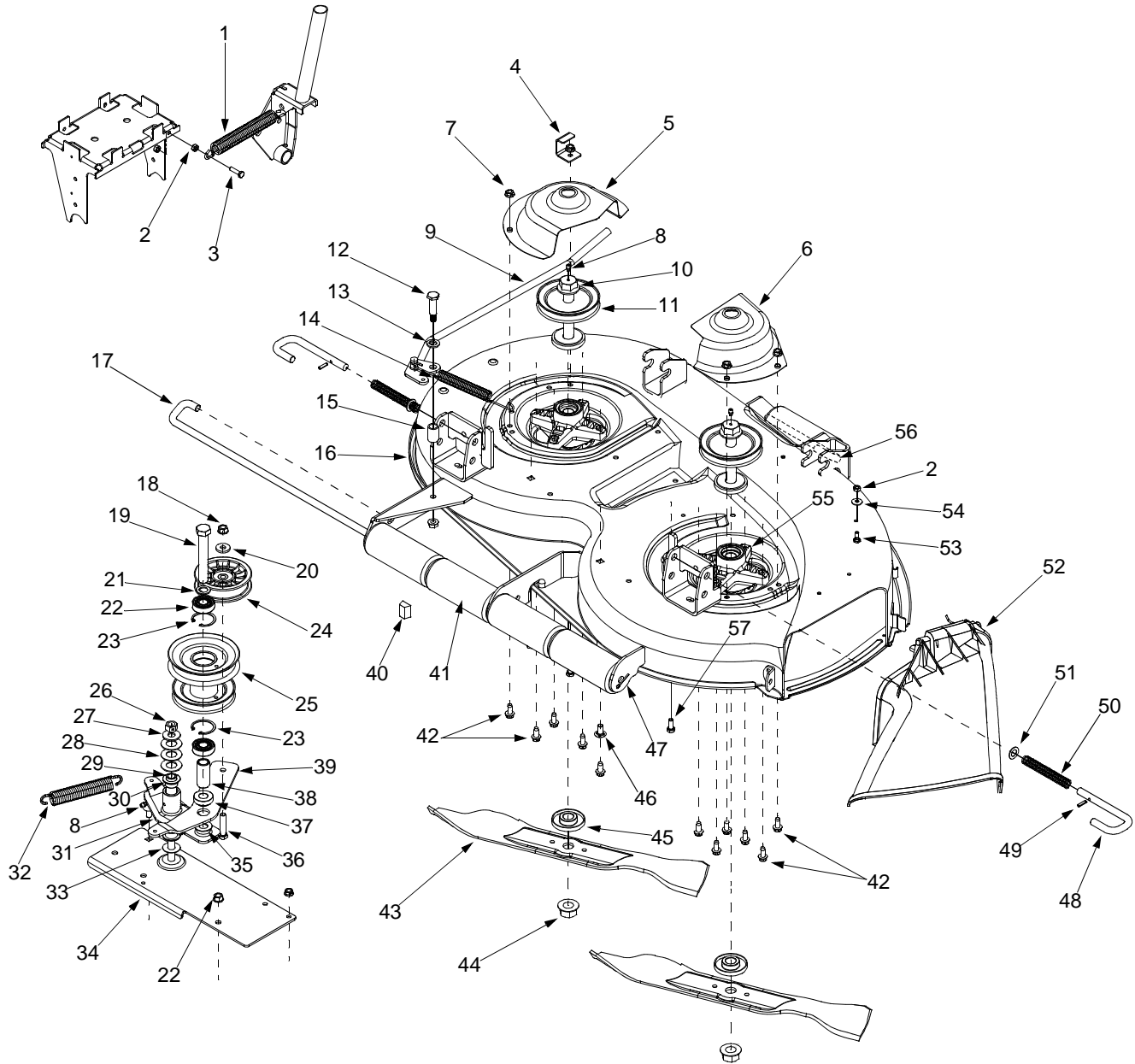
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	712-3075	Hex Lock Nut, 1.0-14	11.	736-0227	Flat Washer 3/8 x 1.5
2.	736-0274	Flat Washer	12.	731-0374	Flange Bearing 1.0 ID
3.	603-0389A	Pin Ass'y, Pivot	13.	737-0280	Grease Fitting
4.	737-3090	Adapter, 1/8 NPTF x 1/8 NPTF	14.	603-0363	Castor Wheel Bracket
5.	737-3072	Grease Fitting, 65° w/Extension	15.	712-0239	Hex Center Lock Nut 1/2-20
6.	712-0431	Hex Flange Lock Nut, 3/8-16	16.	710-0506	Hex Cap Screw, 1/2-20 x 5.5
7.	712-0229	Push Nut, 3/8 ID	17.	750-0456	Spacer, .79 ID x .347 Lg
8.	710-3178	Carriage Bolt, 3/8-16 x .75	18.	634-3169	Wheel Comp 11.0 x 4.0 x 5.0
9.	710-0514	Hex Cap Screw, 3/8-16 x 1.0	19.	750-3197	Wheel Spacer
10.	736-0169	Lock Washer 3/8	20.	603-0382	Front Axle Ass'y

Model 53AA1A3G401



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	712-0455	Retaining Nut 3/8-16	10.	710-1174	Carriage Bolt 5/16-18 x 2.0
2.	603-0720B	Frame Assembly	11.	736-0451	Shoulder Washer .320 ID x .93 OD
3.	712-0251	Retaining Nut 3/8-16	12.	710-0521	Hex Cap Screw 3/8-16 x 3.0
4.	710-0216	Hex Cap Screw 3/8-16 x .75	13.	710-0859	Hex Cap Screw 3/8 - 16 x 2.5
5.	712-0431	Lock Nut 3/8-16	14.	719-3130	Counter Weight
6.	710-3144	Hex Cap Screw 3/8-16 x 2.0	15.	726-0298	End Cap
7.	749-3061	Lower Bumper Tube	16.	603-0620	Bumper Ass'y
8.	712-3004	Lock Nut 5/16-18	17.	736-3004	Flat Washer .406 ID x .875 OD
9.	749-3062	Upper Bumper Tube	18.	712-0431	Flange Lock Nut 3/8-16

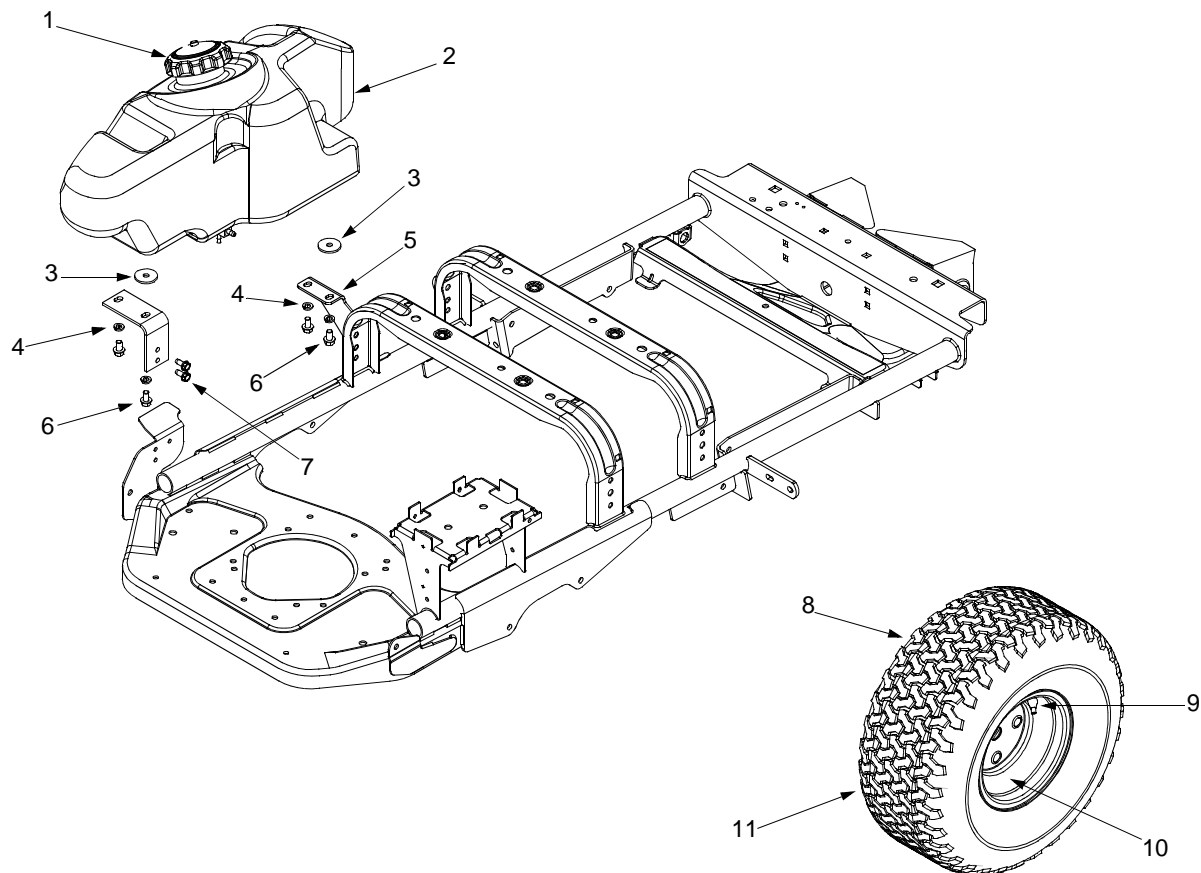
Model 53AA1A3G401



Model 53AA1A3G401

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1.	732-0556	Spring Extension .94 OD x 7.57 LG	30.	741-0338	Flange Bearing 3/4 ID x .52 LG
2.	712-3006	Hex Nut 1/4-20	31.	603-0581	Pivot Arm Pulley Asm
3.	710-0597	Hex Cap Screw 1/4-20 x 1.0	32.	732-0850	Spring Extension 1.0 OD x 6.14 LG
4.	703-2559	Stop Bracket	33.	736-0100	Flat Washer .531 ID x 1.25 OD
5.	703-2945	Pulley Shield LH	34.	603-0584	Deck Mounting Plate Asm
6.	703-3237	Pulley Shield RH	35.	736-0187	Flat Washer .64 ID x 1.24 OD
7.	712-3004A	Flange Lock Nut 5/16-18	36.	710-3037	Hex Cap Screw 3/8-16 x 1.75
8.	737-3000	Grease Fitting 3/16	37.	738-0988	Shoulder Spacer
9.	603-0580	Rod Assembly	38.	750-3164	Spacer .635 ID x 2.0 LG
10.	710-1336	Spindle Bolt 3/4-16 x 4.25	39.	703-3147	Idler Pivot Arm
11.	756-3089	Pulley	40.	754-3092	V-Belt
12.	738-0213	Shoulder Screw	41.	731-3005	Roller
13.	736-0192	Flat Washer .531 ID x .93 OD	42.	710-1260A	Hex Washer Screw 5/16-18 x .750
14.	732-0851A	Extension Spring .75 OD x 8.63 LG	43.	742-3033	Blade
15.	750-0151	Spacer .550 ID x .750 OD	44.	712-3078	Hex Flange Nut 3/4-16
16.	603-0316	Deck Assembly 42"	45.	748-3065	Spindle Spacer
17.	711-3358	Pin Roller	46.	710-3178	Carriage Bolt 3/8-16 x .75 LG
18.	712-0431	Lock Flange Nut 3/8-16	47.	714-0115	Cotter Pin
19.	710-3151	Hex Cap Screw 5/8-18 x 4.25	48.	747-3013	Support Pin
20.	736-0258	Flat Washer .385 ID x 1.0 OD	49.	715-3003	Pin
21.	736-0290	Flat Washer 5/8 ID x 1.0 OD	50.	732-0802	Spring Compression
22.	741-0524	Bearing .625 ID x 1.57 OD	51.	736-0160	Flat Washer .536 ID x .930 OD
23.	716-3020	Snap Ring	52.	731-1032	Chute Asm
24.	756-0627	Flat Idler Pulley	53.	710-0751	Hex Cap Screw 1/4-20 x .620
25.	756-3103	Double Pulley	54.	736-0270	Bell Washer .265 ID x .75 OD
26.	712-0239	Hex Lock Nut 1/2-20	55.	618-3129	Spindle Assembly
27.	736-0179	Flat Washer 1/2 ID x 1.25 OD	56.	711-3314	Roller Pin
28.	736-0188	Flat Washer .76 ID x 1.49 OD	57.	710-3008	Hex Cap Screw 5/16-18 x .75
29.	750-0656	Spacer .50 OD x .75 ID			

Model 53AA1A3G401



REF. NO.	PART NO.	DESCRIPTION
1.	751-3124B	Fuel Cap
2.	751-3143	Fuel Tank
3.	736-0227	Flat Washer.390 ID x 1.5 OD
4.	736-0169	Lock Washer 3/8
5.	703-2783	Fuel Tank Mounting Bracket
6.	710-0870	Hex Washer Screw 3/8-16 x .625
7.	710-1260A	Hex Washer Screw 5/16-18 x .75
8.	734-1596	Tire 20 x 8 - 8
9.	634-3005	Rim Ass'y 8 x 6.19
10.	734-0255	Tubeless Air Valve
11.	634-3050	Wheel Comp 20 x 8 - 8

NOTES

MANUFACTURER'S LIMITED WARRANTY FOR:



The limited warranty set forth below is given by MTD PRODUCTS INC ("MTD") with respect to new merchandise purchased and used in the United States, its possessions and territories.

MTD warrants this product against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in material or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by MTD Products Inc. for use with the product(s) covered by this manual will void your warranty as to any resulting damages.

Normal wear parts or components thereof are subject to separate terms as follows: All normal wear part or component failures will be covered on the product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear part failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts and components include, but are not limited to, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires. Batteries are covered by a 90-day limited replacement warranty.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE THROUGH YOUR LOCAL AUTHORIZED SERVICE DEALER. To locate the dealer in your area, please check for a listing in the Yellow Pages or contact the Customer Service Department of MTD PRODUCTS INC by calling 1-800-800-7310 or writing to P.O. Box 368022, Cleveland, Ohio 44136-9722.

This limited warranty does not provide coverage in the following cases:

- a. The engine or component parts thereof. These items carry a separate manufacturer's warranty. Please refer to the applicable manufacturer's warranty on these items.
- b. Log splitter pumps, valves and cylinders have a separate one year warranty.

c. Routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments; and normal deterioration of the exterior finish due to use or exposure.

d. MTD does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except those sold through MTD's authorized channels of export distribution.

No implied warranty, including any implied warranty of merchantability or fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty or guaranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product shall bind MTD. During the period of the Warranty, the exclusive remedy is repair or replacement of the product as set forth above. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

The provisions as set forth in this Warranty provide the sole and exclusive remedy arising from the sales. MTD shall not be liable for incidental or consequential loss or damages including, without limitation, expenses incurred for substitute or replacement lawn care services, for transportation or for related expenses, or for rental expenses to temporarily replace a warranted product. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.)

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of the safety features of the product shall void this Warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the use or misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser, original lessee or the person for whom it was purchased as a gift.

How State Law Relates to this Warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.